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City of Birmingham.

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1915.


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BIRMINGHAM :

HUDSON AND SON, PRINTERS, EDMUND STREET AND LIVERY STREET.

—  
1916.





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PUBLIC HEALTH AND HOUSING DEPARTMENT,

THE COUNCIL HOUSE,

BIRMINGHAM,

*July, 1916.*

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH AND  
HOUSING COMMITTEE.

GENTLEMEN,

I herewith submit the Annual Report on the Health of Birmingham for the year ending December 31st, 1915, as required by the Order of the Local Government Board. The Report is somewhat shorter than usual, but covers the essential points. In many instances the detailed figures have been worked out for future reference, but not published here.

On the whole the general health of Birmingham during 1915 may be considered satisfactory. The general death-rate was a low one. On only two previous occasions was a lower death-rate ever reported, *i.e.*, in 1910 and 1912. The incidence of infectious disease was also a relatively low one.

The comparative figures for the large towns show that Birmingham occupies a favourable position. It has the lowest general death-rate and the lowest infant mortality rate of the six largest provincial towns.

What is even more satisfactory than the favourable statistics for a single year is that there has been a progressive decline in the death-rate for a number of years, in both the central areas and in the large crowded areas peopled by the artisan classes.

The yearly reduction in the number of cases of Enteric Fever, from 842 in 1901 to 31 in 1915, is extremely satisfactory. For the same period the deaths fell from 133 to 7.

While it is pleasant to contemplate what has been accomplished in the past, it is equally important to look forward to still further improvements in the future as a result of determined and continued effort along certain general lines.

Perhaps the most pressing requirements are: (1) to educate the city dwellers to insist on getting better housing accommodation than is provided in the back-to-back courtyard houses of the central area, with its sooty atmosphere and unwholesome environment. Fortunately, the process is already making progress, and I have

no fear in the case of Birmingham of the ultimate result. We urgently want houses for those who are at present more or less compelled to live under the bad conditions because no sanitary houses can be obtained. This work means something more than mere housing, for it requires not only proper town planning, but means of transit and attention to commercial requirements.

(2) Next, perhaps, in immediate urgency are developments in all the numerous directions in which the health of the rising generation can be improved. Here again educational methods will succeed when others fail. The feeding and clothing and general treatment of many children is disgraceful. In most instances it is not due to poverty, but to ignorance and carelessness and thriftlessness. A good deal is being done by municipal and voluntary agencies for the mothers of young infants and children up to school age, for children at school (where the mother is usually present at the inspection), and for young girls and boys; but, like all educational work, the results are slow in showing themselves.

(3) Those of us who took part in the medical examination of recruits have been struck by the small number of healthy young adults with reasonably good teeth—indeed, the proportion of men of about 21 years of age who could adequately chew their food was small. I believe that an enormous amount of illness would be saved if this wastage of teeth could be stopped. Much can be done by known methods to stop it, and much requires to be found out, and probably can be found out, by investigation and research.

(4) If one takes the list of diseases on page 8, one is struck by the large number of deaths and probably larger number of cases of sickness due to diseases which should be prevented. In many of these diseases there is room for patient and continued investigation as to the methods of prevention. As yet we have devoted our attention to the ætiology and treatment rather than prevention.

The staff of the Public Health Department was considerably depleted during the year. With the favourable conditions existing, I believe that no harm has resulted in this reduction of numbers, although considerable arrears of structural and drainage work have accumulated. It was arranged that, whenever necessary, temporary augmentation should be made, but so far this has not been necessary. The staff left on duty have worked well, and cheerfully undertaken any extra duty put on them.

I am, Gentlemen,

Your obedient servant,

JOHN ROBERTSON, M.D., B.Sc.

# City of Birmingham.

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## REPORT OF THE MEDICAL OFFICER OF HEALTH

*For the year 1915.*

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### POPULATION.

A correct estimate of the population on June 30th, 1915, is admittedly difficult to make at the present time. The local estimate made in the Public Health Department was 891,234; the estimate of the Registrar-General of the civil population for the same time was 864,545. The Registrar-General's estimate is probably inaccurate to a larger extent than the local estimate, the latter being based on the number of occupied houses in each ward of the City, and the assumption that these houses in 1915 contained as many persons per house as they contained at the Census in 1911. There is ample evidence that the influx of people into Birmingham during the past two years has been very large. There are practically no unoccupied houses of the small class, and, in many cases, two small families occupy one house which was previously occupied by one family; while a very large number of houses have taken in lodgers, so that there is every possibility of the population of Birmingham being even larger than the higher figure stated above.

### MARRIAGES.

There were 9,975 marriages in 1915, as compared with 7,488 in 1914, and 7,245 in 1913. The marriage rate was, therefore, 22·4, as compared with 17·0 in 1914, and 16·9 in 1913.

### BIRTHS.

There were 21,187 babies registered as born alive during the year, as against 23,207 in the previous year, and 23,812 in 1913, i.e., the number of births in 1915 was 2,625 fewer than in 1913, notwithstanding the fact that the population in the interval has increased.

The birth-rate, based on our local estimate of population, was 23·8 per 1,000, as compared with 26·4 per 1,000 and 27·3 per 1,000 in the two previous years. In England and Wales, the birth-rate for 1915 was 21·8 per 1,000, and nearly every large town in England showed a decrease in the number of babies born during the year.

The birth-rate was highest in Duddeston and Nechells ward, viz., 34·6 per 1,000; the next highest was in St. Mary's ward, where the rate was 32·8 per 1,000; the next highest again being in St. Paul's ward, with a rate of 31·8 per 1,000. It was lowest in Moseley and King's Heath ward, viz., 15·4 per 1,000; the next lowest was in Sparkhill ward, where the rate was 15·7 per 1,000; the next lowest again being in Edgbaston, with a rate of 16·2 per 1,000. There was only one ward in the whole City where the birth-rate was higher than in 1915. This was King's Norton, which had a rate of 21·5 per 1,000, as compared with 20·9 in 1914.

## ILLEGITIMATE BIRTHS.

There were 702 births registered as illegitimate during the year, as compared with 698 in the preceding year, and 730 in 1913. The illegitimate births represent 3·3 per cent. of the total. It may be fairly said that the illegitimacy rate in Birmingham is a low one, as compared with many other districts. It is certainly satisfactory to note that the increase in illegitimacy in 1915, which was predicted by certain foolish people, did not take place. It may also be recorded that there was no increase shown in the incidence of venereal disease among regiments visiting the City during the year, after a careful and special watch had been kept for the purpose of obtaining information on this point.

## NOTIFICATION OF BIRTHS ACT.

This Act continues to work with great smoothness, 95 per cent. of all the births being reported. In addition to 19,253 live births notified, there were 732 still births reported by doctors, midwives and others. Over 85 per cent. of all the births notified were visited by Infant Visitors or Health Visitors.

## DEATHS.

There were 12,816 deaths registered in Birmingham in 1915, as compared with 13,026 in 1914, and 12,962 in 1913. Of the deaths 6,693 were of males, and 6,123 were of females; that is to say, there were, notwithstanding the large movement of the male population which has occurred, no less than 570 male deaths in excess of female. The death-rate for 1915 was 14·4 per 1,000 if based on the local estimate of the population, or 14·9 per 1,000 if based on the estimate of the civil population made by the Registrar-General.

## MEAN DEATH-RATE PER 1,000.

|           |                 |     |     | Birmingham. |     | England and Wales. |
|-----------|-----------------|-----|-----|-------------|-----|--------------------|
| 1871-1875 | (Old City)      | ... | ... | 25·2        | ... | 22·0               |
| 1876-1880 | "               | ... | ... | 22·8        | ... | 20·8               |
| 1881-1885 | "               | ... | ... | 20·7        | ... | 19·4               |
| 1886-1890 | "               | ... | ... | 20·2        | ... | 18·9               |
| 1891-1895 | "               | ... | ... | 20·3        | ... | 18·7               |
| 1896-1900 | "               | ... | ... | 20·5        | ... | 17·7               |
| 1901-1905 | (Extended City) | ... | ... | 16·5        | ... | 16·0               |
| 1906-1910 | "               | ... | ... | 15·0        | ... | 14·7               |
| 1911-1915 | "               | ... | ... | 14·6        | ... | 14·1               |

## CHIEF CAUSES OF DEATH.

|                                   |     |     |     |     | No. of Deaths<br>in 1915. | Increase or Decrease<br>compared with 1914. |
|-----------------------------------|-----|-----|-----|-----|---------------------------|---|
| Organic Diseases of Heart         | ... | ... | ... | ... | 1,256                     | + 55  |
| Bronchitis                        | ... | ... | ... | ... | 1,219                     | +110  |
| Pulmonary Tuberculosis            | ... | ... | ... | ... | 1,141                     | + 82  |
| Pneumonia                         | ... | ... | ... | ... | 1,140                     | + 50  |
| Other Forms of Tuberculosis       | ... | ... | ... | ... | 236                       | + 2   |
| Cancer                            | ... | ... | ... | ... | 885                       | +112  |
| Diarrhoea and Enteritis           | ... | ... | ... | ... | 684                       | - 73  |
| Old Age                           | ... | ... | ... | ... | 637                       | + 45  |
| Cerebral Hæmorrhage               | ... | ... | ... | ... | 559                       | + 40  |
| Measles                           | ... | ... | ... | ... | 420                       | +110  |
| Premature Birth                   | ... | ... | ... | ... | 401                       | - 91  |
| Accidents and Negligence          | ... | ... | ... | ... | 401                       | + 19  |
| Infantile Debility, Icterus, etc. | ... | ... | ... | ... | 359                       | - 87  |



CHIEF CAUSES OF DEATH—*continued.*

|                                |     |     |     |     | No. of Deaths<br>in 1915. | Increase or Decrease<br>compared with 1914. |
|--------------------------------|-----|-----|-----|-----|---------------------------|---|
| Nephritis and Bright's Disease | ... | ... | ... | ... | 326                       | — 7   |
| Convulsions (under 5)          | ... | ... | ... | ... | 154                       | — 14  |
| Influenza                      | ... | ... | ... | ... | 146                       | + 4   |
| Diphtheria                     | ... | ... | ... | ... | 135                       | —125  |
| Arterio-sclerosis              | ... | ... | ... | ... | 135                       | + 25  |
| Whooping-Cough                 | ... | ... | ... | ... | 121                       | —188  |
| Meningitis                     | ... | ... | ... | ... | 106                       | — 26  |

## COMPARATIVE DEATH-RATES IN SIX LARGEST TOWNS.

*(From Registrar-General's Figures.)*

|            |     |     |     |     |     |                |
|------------|-----|-----|-----|-----|-----|----------------|
| Glasgow    | ... | ... | ... | ... | ... | 18.7 per 1,000 |
| Birmingham | ... | ... | ... | ... | ... | 14.8 „         |
| Liverpool  | ... | ... | ... | ... | ... | 19.3 „         |
| Manchester | ... | ... | ... | ... | ... | 17.4 „         |
| Sheffield  | ... | ... | ... | ... | ... | 17.0 „         |
| Leeds      | ... | ... | ... | ... | ... | 17.0 „         |

## DEATH-RATES IN WARDS.

As in former years, the death-rate in the central areas of the City was nearly twice as great as in the peripheral area. In the seven central wards, with a population of approximately 230,000, the average death-rate was 20.2 per 1,000, in the wards immediately outside these central wards, with a population of 360,000, it was 13.1 per 1,000, and in the outside wards, having a population of 270,000 the death-rate was 11.1 per 1,000.

The highest death-rate was in St. Mary's ward, viz., 24.5 per 1,000, the next highest being in St. Paul's ward, with a rate of 22.5 per 1,000, the next again being in St. Bartholomew's, with a rate of 21.8 per 1,000. The lowest mortality rate was in Yardley ward, viz., 9.3 per 1,000, the next lowest being in South Erdington, viz., 9.8 per 1,000, and the third lowest in Moseley and King's Heath, where the rate was 9.9 per 1,000.

The statistics for the three model estates for 1915 are set out below:—

|   | Estimated<br>Population. | Birth-Rate<br>per 1,000. | Death-Rate<br>per 1,000. | Infant Mortality<br>per 1,000 Births. |
|---|--------------------------|--------------------------|--------------------------|---------------------------------------|
| Bournville ... ..                       | 4,123                    | 10.4                     | 8.0                      | 47                                    |
| Harborne Tenants ...                    | 1,750                    | 22.3                     | 5.7                      | 51                                    |
| Ideal Estate, Bordesley<br>Green ... .. | 1,200                    | 23.3                     | 5.0                      | 36                                    |
| Total for three Estates,<br>1915 ... .. | 7,073                    | 15.6                     | 6.9                      | 45                                    |

## INFANT MORTALITY.

During 1915 2,490 infants died under one year of age, as against 2,839 in the previous year. The infant mortality rate per 1,000 infants born was 118, as compared with 122 in 1914, and 129 in 1913.

In the following table it will be noted that since definite action has been taken to lower this mortality rate a very considerable reduction has been made. The quinquennium, 1911-1915, shows a reduction of 20 per cent. on that of 1901-1905.

## MEAN INFANTILE MORTALITY PER 1,000 BIRTHS.

|                               | Birmingham. |     |     | England and Wales. |     |     |
|-------------------------------|-------------|-----|-----|--------------------|-----|-----|
| 1871-1875 (Old City) ... ..   | 182         | ... | ... | 153                | ... | ... |
| 1876-1880       "       ...   | 164         | ... | ... | 145                | ... | ... |
| 1881-1885       "       ...   | 161         | ... | ... | 139                | ... | ... |
| 1886-1890       "       ...   | 173         | ... | ... | 145                | ... | ... |
| 1891-1895       "       ...   | 176         | ... | ... | 151                | ... | ... |
| 1896-1900       "       ...   | 199         | ... | ... | 156                | ... | ... |
| 1901-1905 (Extended City) ... | 157         | ... | ... | 138                | ... | ... |
| 1906-1910       "       ...   | 131         | ... | ... | 117                | ... | ... |
| 1911-1915       "       ...   | 126         | ... | ... | 110                | ... | ... |

## INFANT MORTALITY RATES IN SIX LARGEST TOWNS.

(From the Registrar General's Figures.)

|                   |     |           |
|-------------------|-----|-----------|
| Glasgow ... ..    | 143 | per 1,000 |
| Birmingham ... .. | 117 | "         |
| Liverpool ... ..  | 132 | "         |
| Manchester ... .. | 126 | "         |
| Sheffield ... ..  | 133 | "         |
| Leeds ... ..      | 125 | "         |

In the next table is shown the infant mortality rate for each ward in Birmingham, together with the mean rate for 4 years:—

| WARD.                            | INFANT MORTALITY RATE. |       |       |       |                          |
|----------------------------------|------------------------|-------|-------|-------|--------------------------|
|                                  | 1912.                  | 1913. | 1914. | 1915. | Mean of 4 years, 1912-15 |
| Acock's Green ... ..             | 79                     | 102   | 95    | 73    | 87                       |
| All Saints' ... ..               | 98                     | 124   | 135   | 108   | 116                      |
| Aston ... ..                     | 105                    | 136   | 138   | 128   | 127                      |
| Balsall Heath ... ..             | 81                     | 99    | 80    | 91    | 88                       |
| Duddeston and Nechells ... ..    | 180                    | 179   | 173   | 158   | 172                      |
| Edgbaston ... ..                 | 87                     | 109   | 72    | 82    | 87                       |
| Erdington North ... ..           | 62                     | 68    | 104   | 84    | 79                       |
| Erdington South ... ..           | 97                     | 82    | 74    | 69    | 80                       |
| Handsworth ... ..                | 78                     | 69    | 94    | 94    | 84                       |
| Harborne ... ..                  | 87                     | 54    | 53    | 81    | 69                       |
| King's Norton ... ..             | 80                     | 78    | 78    | 87    | 81                       |
| Ladywood ... ..                  | 123                    | 159   | 166   | 126   | 143                      |
| Lozells ... ..                   | 102                    | 100   | 115   | 102   | 105                      |
| Market Hall ... ..               | 138                    | 155   | 166   | 123   | 145                      |
| Moseley and King's Heath ... ..  | 74                     | 60    | 54    | 64    | 63                       |
| Northfield ... ..                | 60                     | 63    | 90    | 123   | 84                       |
| Rotton Park ... ..               | 112                    | 137   | 134   | 118   | 125                      |
| St. Bartholomew's ... ..         | 134                    | 205   | 167   | 180   | 171                      |
| St. Martin's and Deritend ... .. | 136                    | 180   | 148   | 157   | 155                      |
| St. Mary's ... ..                | 194                    | 229   | 195   | 187   | 201                      |
| St. Paul's ... ..                | 134                    | 162   | 153   | 170   | 155                      |
| Saltley ... ..                   | 109                    | 94    | 109   | 86    | 99                       |
| Sandwell ... ..                  | 87                     | 79    | 64    | 106   | 84                       |
| Selly Oak ... ..                 | 57                     | 82    | 70    | 94    | 76                       |
| Small Heath... ..                | 85                     | 113   | 89    | 86    | 93                       |
| Soho ... ..                      | 76                     | 104   | 89    | 92    | 90                       |
| Sparkbrook ... ..                | 90                     | 98    | 102   | 87    | 94                       |
| Sparkhill ... ..                 | 61                     | 60    | 75    | 55    | 63                       |
| Washwood Heath ... ..            | 97                     | 114   | 87    | 123   | 105                      |
| Yardley ... ..                   | 109                    | 67    | 83    | 56    | 79                       |

During 1915 the rate was highest in St. Mary's ward, and next highest in St. Bartholomew's ward. It was lowest in Sparkhill and Yardley.

# INFANT MORTALITY DURING THE YEAR 1915.

DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

| CAUSE OF DEATH.                       | Weeks. |     |     |    | Total under one m'nth | Months. |     |     |     | Total Deaths under 1 year. |
|---------------------------------------|--------|-----|-----|----|-----------------------|---------|-----|-----|-----|----------------------------|
|                                       | 0-     | 1-  | 2-  | 3- |                       | 1-      | 3-  | 6-  | 9-  |                            |
| Smallpox ... ..                       | —      | —   | —   | —  | —                     | —       | —   | —   | —   | —                          |
| Chicken-pox ... ..                    | —      | —   | —   | —  | —                     | —       | —   | —   | —   | —                          |
| Measles ... ..                        | —      | —   | —   | 2  | 2                     | 2       | 7   | 30  | 59  | 100                        |
| Scarlet Fever ... ..                  | —      | —   | —   | —  | —                     | —       | —   | 1   | 2   | 3                          |
| Whooping Cough ... ..                 | —      | —   | 1   | —  | 1                     | 13      | 7   | 14  | 13  | 48                         |
| Diphtheria and Croup ... ..           | —      | —   | —   | —  | —                     | —       | 1   | 2   | 3   | 6                          |
| Erysipelas ... ..                     | —      | —   | —   | 2  | 2                     | 3       | 1   | —   | —   | 6                          |
| Tuberculous Meningitis ... ..         | —      | —   | —   | —  | —                     | —       | 4   | 5   | 8   | 17                         |
| Abdominal Tuberculosis ... ..         | —      | —   | —   | —  | —                     | 10      | 8   | 18  | 3   | 39                         |
| Other Tuberculous Diseases ... ..     | —      | —   | —   | —  | —                     | —       | 2   | 6   | 6   | 14                         |
| Meningitis (not Tuberculous) ... ..   | —      | 1   | —   | 1  | 2                     | 1       | 16  | 13  | 13  | 45                         |
| Convulsions ... ..                    | 18     | 6   | 6   | 3  | 33                    | 27      | 23  | 24  | 10  | 117                        |
| Laryngitis ... ..                     | —      | —   | 1   | —  | 1                     | —       | —   | 2   | 1   | 4                          |
| Bronchitis ... ..                     | 1      | 5   | 7   | 10 | 23                    | 40      | 39  | 43  | 39  | 184                        |
| Pneumonia (all Forms) ... ..          | 1      | 3   | 3   | 1  | 8                     | 29      | 55  | 90  | 76  | 258                        |
| Diarrhœa ... ..                       | 1      | 1   | 1   | 4  | 7                     | 32      | 62  | 36  | 15  | 152                        |
| Enteritis ... ..                      | 3      | 2   | 5   | 7  | 17                    | 80      | 98  | 71  | 61  | 327                        |
| Gastritis ... ..                      | 2      | 1   | 3   | 3  | 9                     | 24      | 13  | 4   | 5   | 55                         |
| Syphilis ... ..                       | 1      | 1   | 2   | —  | 4                     | 9       | 8   | 3   | —   | 24                         |
| Rickets ... ..                        | —      | —   | —   | —  | —                     | 1       | 2   | 5   | 2   | 10                         |
| Suffocation (Overlying) ... ..        | 3      | 2   | 6   | 6  | 17                    | 34      | 21  | 6   | 1   | 79                         |
| Injury at Birth ... ..                | 11     | —   | —   | 1  | 12                    | —       | —   | —   | —   | 12                         |
| Atelectasis ... ..                    | 19     | 5   | 1   | —  | 25                    | 2       | —   | —   | —   | 27                         |
| Congenital Malformations ... ..       | 20     | 10  | 10  | 4  | 44                    | 20      | 12  | 4   | 2   | 82                         |
| Premature Birth ... ..                | 293    | 26  | 32  | 16 | 367                   | 30      | 3   | —   | 1   | 401                        |
| Atrophy, Debility and Marasmus ... .. | 75     | 27  | 27  | 16 | 145                   | 88      | 61  | 26  | 15  | 335                        |
| Other causes ... ..                   | 36     | 12  | 10  | 6  | 64                    | 25      | 18  | 19  | 19  | 145                        |
| All causes ... ..                     | 484    | 102 | 115 | 82 | 783                   | 470     | 461 | 422 | 354 | 2,490                      |

The above causes of death are summarised in the following table :—

|                                     | 1915. | 1914. |
|-------------------------------------|-------|-------|
| Prematurity and Malformation ... .. | 483   | 583   |
| Diarrhœal Diseases ... ..           | 479   | 529   |
| Bronchitis and Pneumonia ... ..     | 442   | 450   |
| Debility and Marasmus, etc. ... ..  | 359   | 435   |
| Convulsions and Meningitis ... ..   | 162   | 180   |
| Measles and Whooping Cough ... ..   | 148   | 191   |
| Suffocation ... ..                  | 79    | 87    |
| Tubercular Diseases ... ..          | 70    | 73    |
| Syphilis ... ..                     | 24    | 33    |
| Scarlet Fever and Diphtheria ... .. | 9     | 12    |
| Other causes ... ..                 | 235   | 266   |

It will be noted that in every one of these causes of death the number for 1915 is lower than in 1914.

## PREVENTION OF INFANT MORTALITY.

In previous annual reports a good deal of attention has been paid to the general scheme for preventing infant mortality and to the organisations, both municipal and voluntary, which are in operation in the City. It will probably, therefore, suffice on this occasion if only the new features of the work arranged in 1915 are mentioned.



(1) As the result of the passing of the Notification of Births (Extension) Act, 1915, a Sub-Committee of the Public Health Committee has been appointed to deal with all matters relating to infant mortality, or rather to deal with infant welfare work in its many ramifications. Two ladies have been co-opted on this Committee, and have been at work since November 9th, 1915.

(2) Two new municipal centres, viz., Hope Street and St. Vincent Street, have been opened during the year, and all the preliminary steps were taken for the completion of three new municipal centres in 1916 and several new voluntary centres. This was made possible by the City Council approving of a report from the Public Health Committee as follows :—

“Your Committee propose to proceed with the establishment of four additional Centres in accordance with the authority of the Council already given them. It is intended to establish one in the Hockley district, one in Aston, and one in Saltley. The situation of the other Centre has not been definitely decided. In each case it is intended to rent suitable premises and to adapt them for the purpose proposed.

“With regard to Welfare Centres in other districts which are not covered by existing or proposed Centres, and especially in outlying wards, your Committee are of opinion that the best, as well as the most economical, method of procedure is to encourage private effort to establish Centres. This is in accordance with the opinion of the Local Government Board, who advise that the services of efficient voluntary agencies should be utilised as far as possible. A good deal of valuable work is already being done by voluntary agencies, and the following Centres are in operation :—

Birmingham Infant Health Society, River Street, Deritend.

Settlement Guild of Mothers, Staniforth Street.

Selly Oak School for Mothers.

Stirchley School for Mothers.

Maternity Hospital Infant Consultation, Loveday Street.

South Edgbaston School for Mothers, Latimer Street.

“With the object, therefore, of encouraging the setting-up of additional voluntary Centres, your Committee recommend that they be authorised to contribute two-thirds of the approved current expenditure of such Centres, subject to the condition that a paid medical officer and an adequate number of trained women workers are employed at each Centre, and that the premises and equipment are satisfactory. They estimate that the approved annual expenditure of such institutions will not exceed £300. In that case £200 per annum will be the amount of the Committee's contribution, and one-half of this sum will be repaid by the Local Government Board. Your Committee estimate that if this recommendation is approved, they may, during the next financial year, be asked to make contributions to eight Voluntary Centres, including some of the existing Centres, making a total payment of £1,600 per annum, or a net cost to the Corporation of £800 per annum. They believe the sum for next year is likely to be under rather than over this amount, as it is improbable that new Centres, even if established, would be in full working order for the whole year, but the estimate is given with the intention of letting the Council know what, so far as your Committee can judge, is likely to be the highest expenditure for the ensuing financial year.

“It will be seen that the method of procedure proposed by your Committee will result in the cost of the work being equally divided between private subscribers, the local rate, and national funds. It also has the advantage of enlisting local interest in the Centres.”

(3) *Home Visiting.*—Each of the Birmingham Centres, both municipal and voluntary, has allotted to it a defined area. Every birth taking place in a poor class house is reported to the Centre for the district, and visits are paid with a view to getting the mothers to come up to the Centre with their babies for advice before illness occurs. The Centre does not in any way assume the functions of a doctor treating a patient for a disease already existing. When any case of serious illness occurs the infant is referred to its own family doctor. Without this home visiting, a good many mothers would either not know of the existence of the Centre, or, in the case of the careless mothers, would neglect to avail themselves of it.

(4) *Pre-natal work.*—The statistics of infant mortality show that a very large number of infants die prematurely, or die from debility and marasmus shortly after birth, these deaths being due to maternal conditions which, in a considerable number of cases, can be prevented. It has, therefore, been arranged that on one or more days in each week attendance shall be given at the Centres to enable the medical officer to give advice to mothers about their own health. Here again the whole idea is the prevention of disease, and when an illness occurs which requires skilled medical treatment, the mother is referred to her doctor or to a hospital, as the case may be.



(5) The relationship between the Centre and the midwives practising in the district is of the greatest importance, and midwives have been asked to co-operate with the Centres whenever they come across pregnant women who appear not to be in good health, or women who otherwise are not taking proper precautions in regard to their own health.

(6) At each of the municipal centres, and those voluntary ones which receive a municipal grant, it is the desire of the Sub-Committee that the giving of the best class of medical advice in hygiene should be the most important feature of the institution. Around this medical advice on hygiene there can be developed a very large amount of useful preventive work by non-medical people, and a great deal of assistance can be given to the medical officer in ensuring that the medical instructions are properly carried out. For this purpose one or two capable trained infant welfare workers are needed at each Centre. Then, at these Centres much good can be done by others, not so highly trained, in the direction of thrift clubs and in organising the teaching of cookery, patching, sewing, etc., housewifery, and many other subjects.

(7) There is great need for investigation work into the subject of the prevention of diseases, some of which show themselves during early years, while others do not appear until later in life. For instance, a very large number of the population of these islands have teeth so defective that they cannot masticate their food properly, and in many others the septic condition of the gums is such that this is possibly the cause of illnesses little associated with the teeth at the present time; yet the correct treatment, both hygienically and from a dietetic point of view, commences in infancy, but, unfortunately, there is not as yet general agreement as to the best method of procedure. There are many other subjects which need to be taken in hand and worked out in regard to Maternity and Infant Welfare Centres before the best results can be obtained.

#### WORK AT THE MUNICIPAL CENTRES DURING 1915.

It is practically impossible to make a record of work of this character which will convey adequately its nature or extent. The figures given in the following tables merely indicate the amount of material among which work was carried on:—

|  | Darwin<br>Street<br>Centre. | Hope<br>Street<br>Centre. | New John<br>Street West<br>Centre. | St. Vincent<br>Street<br>Centre. | Windsor<br>Street<br>Centre. | Total. |
|--|-----------------------------|---------------------------|------------------------------------|----------------------------------|------------------------------|--------|
| Births notified ... ..                                     | 1,692                       | 897                       | 1,252                              | 1,379                            | 1,412                        | 6,632  |
| Primary Visits paid ... ..                                 | 1,575                       | 824                       | 1,283                              | 1,385                            | 1,443                        | 6,510  |
| Attended by Doctor ... ..                                  | 384                         | 247                       | 225                                | 468                              | 293                          | 1,617  |
| Attended by Midwife ... ..                                 | 1,154                       | 553                       | 1,022                              | 865                              | 1,099                        | 4,693  |
| In Institutions ... ..                                     | 37                          | 24                        | 36                                 | 52                               | 51                           | 200    |
| No. of Still births ... ..                                 | 50                          | 20                        | 18                                 | 48                               | 48                           | 184    |
| No. of Illegitimate Births ...                             | 38                          | 22                        | 10                                 | 32                               | 27                           | 129    |
| No. of Premature Births ...                                | 61                          | 29                        | 20                                 | 48                               | 87                           | 245    |
| Condition of Baby at First<br>Visit—Good ... ..            | 1,393                       | 706                       | 1,112                              | 1,099                            | 1,130                        | 5,440  |
| Fair ... ..  | 70                          | 71                        | 107                                | 197                              | 196                          | 641    |
| Bad ... ..   | 21                          | 11                        | 13                                 | 30                               | 57                           | 132    |
| Dead ... ..  | 91                          | 36                        | 51                                 | 59                               | 60                           | 297    |
| Health of Mother—Good ...                                  | 1,389                       | 687                       | 1,096                              | 1,158                            | 1,223                        | 5,553  |
| Fair ... ..  | 146                         | 105                       | 178                                | 147                              | 170                          | 746    |
| Bad ... ..   | 37                          | 30                        | 8                                  | 75                               | 43                           | 193    |
| Dead ... ..  | 3                           | 2                         | 1                                  | 5                                | 7                            | 18     |
| Periodical Revisits ... ..                                 | 3,514                       | 3,366                     | 4,163                              | 3,317                            | 5,688                        | 20,048 |
| Revisits for special purposes ...                          | 472                         | 368                       | 1,256                              | 124                              | 437                          | 2,657  |
| Visits after death ... ..                                  | 63                          | 56                        | 108                                | 29                               | 82                           | 338    |
| Final visits at 1 year ... ..                              | 349                         | 267                       | 965                                | 887                              | 939                          | 3,407  |
| No. of Babies brought to con-<br>sultations ... ..         | 573                         | 540                       | 891                                | 785                              | 421                          | 3,210  |
| Total attendances at consulta-<br>tion—Under 1 year ... .. | 2,654                       | 2,224                     | 2,660                              | 2,403                            | 1,138                        | 11,079 |
| Over 1 year ... ..   | 200                         | 261                       | 367                                | 437                              | 96                           | 1,361  |

## FEEDING OF EXPECTANT MOTHERS.

As in former years, the feeding of expectant and nursing mothers who were in a starving condition was carried out at two Centres, with very good results. Most of the mothers who were fed were the wives of men who were ill, and, therefore, out of work, or were the wives of ne'er-do-well husbands, and were struggling to bring up their families reasonably. About 2,500 meals were provided at the two Centres A and B, associated with the municipal consultations. For next year, 1917, a grant of £100 has been made, which, with voluntary subscriptions, will enable one or two further Centres to be carried on if required.

## INFECTIOUS DISEASES.

The deaths during the year from certain of the more important infectious diseases are set out in the statement below :—

| DISEASE.                           | Deaths in<br>1915. | Average<br>1905-14. | Above<br>or below<br>the average. |
|------------------------------------|--------------------|---------------------|-----------------------------------|
| Enteric Fever ... ..               | 7                  | 41                  | — 34                              |
| Smallpox ... ..                    | 0                  | 0                   | —                                 |
| Measles ... ..                     | 420                | 345                 | + 75                              |
| Scarlet Fever ... ..               | 61                 | 121                 | — 60                              |
| Whooping Cough ... ..              | 121                | 262                 | —141                              |
| Diphtheria ... ..                  | 135                | 152                 | — 17                              |
| Diarrhœa and Enteritis ... ..      | 684                | 821                 | —137                              |
| Pulmonary Tuberculosis ... ..      | 1,141              | 987                 | +154                              |
| Other Forms of Tuberculosis ... .. | 236                | 277                 | — 41                              |

The prevalence of the chief notifiable diseases is shown in the next table :—

| DISEASE.                           | Cases in<br>1915. | Average<br>1905-14. | Above<br>or below<br>the average. |
|------------------------------------|-------------------|---------------------|-----------------------------------|
| Enteric Fever ... ..               | 31                | 192                 | —161                              |
| Smallpox ... ..                    | 0                 | 4                   | — 4                               |
| Scarlet Fever ... ..               | 2,978             | 4,646               | —1,668                            |
| Diphtheria ... ..                  | 1,072             | 1,158               | — 86                              |
| Erysipelas ... ..                  | 728               | 797                 | — 69                              |
| Pulmonary Tuberculosis ... ..      | 3,027             | —                   | —                                 |
| Other forms of Tuberculosis ... .. | 491               | —                   | —                                 |
| Cerebro-Spinal Fever ... ..        | 52                | —                   | —                                 |
| Acute Poliomyelitis ... ..         | 8                 | —                   | —                                 |
| Puerperal Fever ... ..             | 161               | 65                  | + 96                              |
| Ophthalmia Neonatorum ... ..       | 324               | —                   | —                                 |

In addition to the above the following cases were reported by the elementary school teachers :—

|                       | 1915. | 1914. | 1913. |
|-----------------------|-------|-------|-------|
| Measles ... ..        | 8,144 | 4,612 | 3,661 |
| German Measles ... .. | 680   | 61    | 85    |
| Whooping Cough ... .. | 2,349 | 4,381 | 2,638 |
| Chicken Pox... ..     | 4,829 | 2,973 | 2,422 |
| Mumps ... ..          | 4,459 | 2,285 | 4,253 |

## ENTERIC FEVER.

There were 31 cases of Enteric Fever notified, with 7 deaths, in Birmingham in 1915. This is our best record so far, and contrasts very favourably with 842 cases and 133 deaths in 1901.

A few of the 31 cases were undoubtedly imported, while others appeared not to be imported. No case was apparently due to a milk outbreak, but several may possibly have been due to shellfish. It is probable that all the 31 cases were true cases of Enteric Fever.

## SMALLPOX.

No case of Smallpox was reported in 1915. During the year there were 78 cases notified in England and Wales in 20 sanitary districts, and there were 12 cases taken from ships arriving in ports.

## VACCINATION.

The following statement shows the amount of vaccination performed in regard to infants whose births were registered during the year ending June 30th, 1915:—

|   |                                 |
|---|---------------------------------|
| Births returned ... ..                  | 23,132                          |
| Conscientious objections...             | 3,153, or 13·6 % of total.      |
| Died unvaccinated ... ..                | 2,067                           |
| Successfully vaccinated ... ..          | 14,861, or 70·5 % of survivors. |
| Insusceptible ... ..                    | 74, or 0·4 % „                  |
| Postponed by medical certificate ... .. | 611, or 2·9 % „                 |
| Removed to other districts ... ..       | 232, or 1·1 % „                 |
| Lost sight of ... ..                    | 1,299, or 6·2 % „               |
| Still under notice ... ..               | 834, or 4·0 % „                 |

## MEASLES.

There were 420 deaths due to Measles, most of which occurred in the early months of the year. In the preceding year there were 310 deaths, and in 1912, 398 deaths. There were 8,144 cases reported from schools and by health visitors.

The numbers of deaths at ages were as follows:—

|                              |     |
|------------------------------|-----|
| Under 1 year ... ..          | 100 |
| Between 1 and 2 years ... .. | 161 |
| „ 2 „ 3 „ ... ..             | 78  |
| „ 3 „ 4 „ ... ..             | 33  |
| „ 4 „ 5 „ ... ..             | 17  |
| „ 5 „ 10 „ ... ..            | 29  |
| 10 and over ... ..           | 2   |

Towards the end of 1914 the Public Health and Housing Committee authorised the engagement of the services of skilled nurses from the Birmingham District Nursing Society to look after children in certain of the poorer districts who were suffering from measles. There appears to be no doubt that this experiment, small as it was, had the effect of reducing the mortality in the district. Indeed, the results were so good that the Committee felt justified in providing for nurses in any future epidemic, should the disease be of a severe type.

Towards the end of 1915 measles again became prevalent. This time, however, the disease was so mild that very few deaths occurred—indeed, the deaths were so few and the cases so mild, that it was not thought desirable to commence the employment of nurses.

## SCARLET FEVER.

There were 2,978 cases of Scarlet Fever notified, as compared with 6,764 in 1914, and 61 deaths, as compared with 148. It will be remembered that in the years 1912 and 1913 a large prevalence of Scarlet Fever occurred, and that this continued to diminish during 1914. The year 1915 was, therefore, one of the years when the incidence was lower than usual. As in non-epidemic times, the fatality rate was a relatively low one, viz., 2·05 per cent., and the death-rate ·07 per 1,000.

A short report on the cases treated at the hospitals will be found under the heading “City Hospitals.”



During the year 2,107 true cases of Scarlet Fever were removed to the infectious diseases hospitals with a fatality rate of 2·6 per cent., while 871 cases were nursed at home, with a fatality rate of 0·8 per cent.

As in former years, inquiry has been made as to the occurrence of secondary cases of Scarlet Fever in houses from which a first case was removed to hospital, and also in regard to houses where the first case was nursed at home. Excluding public institutions, there were 2,356 houses invaded during the year, and in 313 of these a secondary case occurred in the same house not less than three days after the first case was discovered nor more than 28 days after its return from hospital or release from isolation. In the houses from which the primary case was removed there were 7,531 inmates left, and of these 252 developed Scarlet Fever, equal to 3·3 per cent. of secondary cases. In the houses where the first case was nursed at home there were 2,743 other inmates, and, of these, 61 contracted Scarlet Fever, or 2·2 per cent.

*Return cases of Scarlet Fever.* These are cases occurring in a house within 28 days of the return from hospital or release from isolation of an infected case.

TABLE SHOWING RETURN CASES OF SCARLET FEVER.

| Year. |     |     |     | Notified Cases. | Return Cases. | Percentage of Return Cases. | Infecting Cases. |
|-------|-----|-----|-----|-----------------|---------------|-----------------------------|------------------|
| 1908  | ... | ... | ... | 2,275           | 105           | 4·6                         | 75               |
| 1909  | ... | ... | ... | 2,871           | 114           | 4·0                         | 101              |
| 1910  | ... | ... | ... | 2,709           | 133           | 4·9                         | 120              |
| 1911  | ... | ... | ... | 2,258           | 142           | 6·3                         | 110              |
| 1912* | ... | ... | ... | 5,505           | 304           | 5·5                         | 248              |
| 1913* | ... | ... | ... | 8,447           | 449           | 5·3                         | 354              |
| 1914* | ... | ... | ... | 6,764           | 402           | 5·9                         | 314              |
| 1915* | ... | ... | ... | 2,978           | 147           | 4·9                         | 126              |

\* Extended City.

No hospital was free from return cases during 1915, the number of cases at each of the hospitals being as follows :—

| Hospital.       |     |     |     | Admissions. | Return Cases. | Percentage of Return Cases. |
|-----------------|-----|-----|-----|-------------|---------------|-----------------------------|
| Little Bromwich | ... | ... | ... | 1,834       | 92            | 5·0                         |
| *Lodge Road     | ... | ... | ... | 227         | 15            | 6·6                         |
| West Heath      | ... | ... | ... | 226         | 9             | 4·0                         |
| †Witton         | ... | ... | ... | 69          | 10            | 14·5                        |

\* Up to September 23rd only. † Up to February 19th only.

### WHOOPIING COUGH.

This disease caused the deaths of 121 young children during 1915, as against 309 in 1914, and 163 in 1913. The number of deaths about every second year appears to be nearly double what it was in the intervening year. As in the case of measles, the age at death of these patients does not represent the number of cases occurring at the various ages, because the disease is enormously more fatal at the earlier than the later ages.

During 1915 the age at death was as follows :—

|                     |     |     |     |     |     |            |
|---------------------|-----|-----|-----|-----|-----|------------|
| Under 1 year        | ... | ... | ... | ... | ... | 48 deaths. |
| 1 and under 2 years | ... | ... | ... | ... | ... | 36 „       |
| 2 „ 3 „             | ... | ... | ... | ... | ... | 17 „       |
| 3 „ 4 „             | ... | ... | ... | ... | ... | 10 „       |
| 4 „ 5 „             | ... | ... | ... | ... | ... | 5 „        |
| All over 5 years    | ... | ... | ... | ... | ... | 5 „        |

The number of cases of Whooping Cough reported from schools was 2,349 during 1915, as compared with 4,381 in 1914.

## DIPHTHERIA AND CROUP.

The cases of this disease declined both in number and in severity during 1915, as compared with 1914. There were 1,072 persons attacked, of whom 135 died, as compared with 1,623 cases and 260 deaths in 1914.

The fatality rate was 13 per cent., as against 16 and 17 per cent. in the two preceding years. Towards the end of 1915 the cases of Diphtheria removed to hospital were dealt with at Little Bromwich Hospital instead of, as formerly, at Lodge Road Hospital.

There is still delay in dealing with cases of Diphtheria. This is mainly due to the fact that the medical practitioner is not called in until the child has been sick for some days. In addition, there is, in a good many instances, some slight delay in notifying the case. In many cases the medical man hesitates about the diagnosis or depends on a report sent by post as the means of informing the Public Health Department of the disease. In all cases of doubt the patient should be sent to the hospital with a note indicating the doubtful nature of the disease, and the case would then be isolated and dealt with.

## DIARRHŒA AND ENTERITIS.

There were 684 deaths from this group of diseases during 1915. This is equal to a death-rate of .77 per 1,000 as compared with death-rates of .87 in 1914 and 1.11 in 1913. The death-rate from this disease cannot be considered satisfactory. As will be seen from the table below, it was a better one than in many of the preceding years, but it is unsatisfactory that nearly 700 deaths, mostly of young children, should have occurred from what is an obviously preventable disease.

To deal first with the temperature and rainfall during the summer, it may be said, generally, that the year was cool and wet. May and June were average months as regards temperature, but July, on the other hand, was distinctly cold and wet, while there was no excessive heat in August and September. The main facts in these respects with regard to previous years are set out for the third quarter of each year since 1901 in the table below :—

|          | Deaths from<br>Diarrhoea and<br>Enteritis. | Death-rate<br>per<br>1,000 | Maximum<br>Air<br>Temperature* | Days with<br>75° or<br>over.* | Maximum Soil<br>Temperature<br>(4ft. deep).* | Amount<br>of<br>Rain.* |
|----------|--|----------------------------|--------------------------------|-------------------------------|--|------------------------|
| 1901 ... | ... 1,320                                  | 1.74                       | 88.0                           | 17                            | 56.0   | 5.91                   |
| 1902 ... | ... 634                                    | .82                        | 81.4                           | 4                             | 53.9   | 7.51                   |
| 1903 ... | ... 921                                    | 1.19                       | 83.8                           | 4                             | 53.8   | 9.85                   |
| 1904 ... | ... 1,422                                  | 1.82                       | 81.8                           | 16                            | 55.8   | 5.75                   |
| 1905 ... | ... 839                                    | 1.06                       | 80.3                           | 7                             | 55.4   | 7.33                   |
| 1906 ... | ... 1,439                                  | 1.80                       | 90.6                           | 15                            | 56.2   | 2.97                   |
| 1907 ... | ... 511                                    | .63                        | 76.8                           | 1                             | 53.2   | 6.08                   |
| 1908 ... | ... 873                                    | 1.06                       | 82.0                           | 7                             | 54.2   | 6.94                   |
| 1909 ... | ... 535                                    | .65                        | 84.4                           | 9                             | 54.3   | 7.63                   |
| 1910 ... | ... 541                                    | .65                        | 73.9                           | 0                             | 53.2   | 8.24                   |
| 1911 ... | ... 1,390                                  | 1.65                       | 93.9                           | 40                            | 57.2   | 3.27                   |
| 1912 ... | ... 346                                    | .41                        | 82.2                           | 4                             | 53.9   | 10.99                  |
| 1913 ... | ... 970                                    | 1.11                       | 79.4                           | 6                             | 54.0   | 4.51                   |
| 1914 ... | ... 767                                    | .87                        | 82.6                           | 8                             | 55.3   | 7.00                   |
| 1915 ... | ... 684                                    | .77                        | 74.6                           | 0                             | 54.3   | 8.34                   |

\*In the third quarter of the year.

To deal next with the distribution of the deaths from this disease, the four wards in the city with the largest number of deaths were as follows :—St. Mary's, 98 ; St. Martin's, 58 ; Duddeston and Nechells, 55 ; and St. Bartholomew's, 53 ; the wards with the lowest numbers being Moseley and King's Heath, 1 ; Sparkhill, 2 ; Northfield 2 ; Yardley, 3 ; and Erdington North, 3.

The opinion expressed in previous years that this disease is largely due to ignorance and carelessness in ensuring that the food and the whole surroundings of the young infant shall be kept at a high state of cleanliness is emphasised by these figures, and anyone who takes the ward death-rates from this disease could form a fairly accurate judgment as to the conditions under which the people live from the death-rate due to Diarrhœa and Enteritis. The milk and other food which the infants get in the bad areas are allowed to become unnecessarily contaminated to such an extent as to set up the disease, and it is, therefore, of the highest importance in these areas that breast feeding should be inculcated in everyone. Almost equally important is the fact that the most scrupulous cleanliness in the case of the clothing and surroundings of young infants is absolutely necessary if such a filth disease as Diarrhœa and Enteritis is to be warded off.

From the above remarks it will be obvious how important a function is being played by the Health Visitors in their visitation from house to house, and by the Infant Welfare Centres, where frequently the same instruction is given more pointedly when a baby is ailing than can be done in the dwelling house. It seems obvious that two things are necessary in abating this scourge, viz. : (1) that the inhabitants shall have reasonable facilities in the way of housing accommodation and the absence of filth nuisances in the proximity of the dwellings ; and (2) that the general education as to what is or what is not harmful should be improved very much.

A good deal has been done in the direction of removing nuisances which were liable to spread infection. During the summer of 1915 great attention was paid to the removal of horse manure, and for this purpose an illustrated booklet was issued to each of the owners of stables. The Cleansing Department were also asked to ensure in the densely crowded areas of the city that ashbins were emptied at least once a week, and a great many owners were required to provide covered bins.

A great deal, however, requires to be done in addition to this. The living room in the poorer class dwelling in Birmingham opens directly on the street front or on to a back yard. In the case of a house facing the street, dust containing horse dung in large quantities is blown into the house and into the foods therein. In the case of the common court-yard it is true that it is everybody's duty to keep this clean, but in practice very little effective cleaning is done, and there is a good deal of what the people think is harmless organic matter thrown on the yard at various times which in the form of dust gets blown into the houses. There undoubtedly needs to be a much greater standard of municipal cleanliness in areas where these small houses open on to the street or on to the back yard than in the areas where a front garden separates the dwelling from the road.

Again, many of the smaller houses have no place whatever in which to store food. One regularly sees in many of the houses the whole of the food possessed by the household left on the table from one meal to another, with no attempt to cover it. It seems to be absolutely necessary that an adequate food cupboard should be provided, particularly one that cannot be used for other purposes.

So far as the education of the mothers is concerned, distinct progress was made during 1915. A larger number of paid workers are employed, either as Health Visitors, or Infant Welfare workers, or workers attached to voluntary organisations, and are daily giving instructions to mothers.

To each house in the poorer areas of the city a handbill, a copy of which is printed on opposite page, was distributed early in the fly season.



### PREVENT ILLNESS FROM FLIES.

HOUSE FLIES have been proved to SPREAD MANY DISEASES. They are probably the MAIN CAUSE of spreading Summer DIARRHŒA.

FLIES WALK IN FILTH of all kinds and then WIPE THEIR FEET ON OUR FOOD. Householders can PREVENT THE FLY NUISANCE :

1. By KEEPING THE ASHBIN ALWAYS COVERED. This prevents Flies getting in to feed.
2. By GETTING RID OF ANY REFUSE in the yard or garden, particularly dung of any kind.
3. By KEEPING THE YARD CLEAN by frequent sweeping, and particularly by seeing that animal refuse, such as droppings and other filth, is put in the Ashbin.
4. KEEPING FOOD COVERED with muslin to keep off Flies, particularly from milk, sugar, and other sweet things.
5. KILLING FLIES by Fly papers, or by placing a saucer at the window with milk and sugar and a teaspoonful of Formalin.
6. HOUSE FLIES HATE CLEANLINESS and cannot live where the surroundings are clean.

The comparative figures of mortality per 1,000 births from Epidemic Diarrhœa during the third quarter of the year and relating to infants under two years of age were as follows :—

|                   |      |                   |      |
|-------------------|------|-------------------|------|
| London ... ..     | 54·0 | Bradford ... ..   | 37·5 |
| Birmingham ... .. | 63·7 | Hull ... ..       | 97·3 |
| Liverpool ... ..  | 83·4 | Newcastle ... ..  | 41·7 |
| Manchester ... .. | 60·5 | Portsmouth ... .. | 18·1 |
| Leeds ... ..      | 72·8 | Salford ... ..    | 81·6 |
| Sheffield ... ..  | 82·7 | Leicester ... ..  | 98·3 |
| Bristol ... ..    | 36·9 | Nottingham ... .. | 59·9 |
| West Ham ... ..   | 76·2 | Stoke ... ..      | 44·0 |

### TUBERCULOSIS.

In the annual report for 1914 a note was made of the difficulty experienced in dealing with the subject of Tuberculosis, on account of the fact that a very large number of people are attacked, the majority of whom recover without themselves being aware, or, indeed, their medical attendant being aware, of the fact that Tuberculosis existed. One is, therefore, not dealing with the total number of cases of Tuberculosis existing in the city, but with the total number of obviously recognisable cases. The number of cases, therefore, will vary according to the efficiency of the medical examination of the patients. As a result, too much reliance must not be placed upon the reduction in the number of notified cases of Tuberculosis which occurred during 1915. The figures for the last four years were as follows :—

| 1912.     | 1913.     | 1914.     | 1915. |
|-----------|-----------|-----------|-------|
| 4,394 ... | 4,229 ... | 3,317 ... | 3,027 |

The number of deaths from Pulmonary Tuberculosis and the death-rate in Birmingham and in England and Wales since 1901 are as follows :—

|          | No.<br>of<br>Deaths. | Death-rate<br>in<br>Birmingham. | Death-rate<br>in England<br>and Wales. |
|----------|----------------------|---------------------------------|--|
| 1901 ... | 1120 ...             | 1·47 ...                        | 1·26                                   |
| 1902 ... | 1071 ...             | 1·38 ...                        | 1·23                                   |
| 1903 ... | 992 ...              | 1·28 ...                        | 1·21                                   |
| 1904 ... | 1018 ...             | 1·30 ...                        | 1·24                                   |
| 1905 ... | 994 ...              | 1·26 ...                        | 1·14                                   |
| 1906 ... | 908 ...              | 1·14 ...                        | 1·16                                   |
| 1907 ... | 898 ...              | 1·11 ...                        | 1·15                                   |
| 1908 ... | 1021 ...             | 1·24 ...                        | 1·12                                   |
| 1909 ... | 1008 ...             | 1·22 ...                        | 1·09                                   |
| 1910 ... | 898 ...              | 1·08 ...                        | 1·01                                   |
| 1911 ... | 958 ...              | 1·14 ...                        | 1·08                                   |
| 1912 ... | 1088 ...             | 1·28 ...                        | 1·04                                   |
| 1913 ... | 1041 ...             | 1·19 ...                        | 1·01                                   |
| 1914 ... | 1059 ...             | 1·20 ...                        | 1·04                                   |
| 1915 ... | 1141 ...             | 1·28 ...                        | —                                      |

It will be seen from the above that during recent years there is no very marked evidence of a rapid decline in the death-rate from Pulmonary Tuberculosis in the city. This is what was expected as the result of the very much greater attention which is being paid to the Tuberculous person now than formerly. Once a case has been notified it is unlikely that the fact of the patient having suffered from Tuberculosis will be overlooked in the death certificate, as was done very frequently in past years. No one, therefore, need be apprehensive that all the money which is being expended is unproductive. In 1914 it was said that approximately the fatality from this disease was 32 per cent. for that particular year. For 1915 it was approximately 37 per cent., that is to say, out of every 100 new cases reported 63 will recover and 37 will die.

As in former years, the mortality from Tuberculosis was much higher in the central areas of the city than in the suburban areas, the incidence being two or three times greater in the centre than in the suburban areas. It used to be thought that the incidence of Pulmonary Tuberculosis was enormously higher among males when only the mortality rate was available, but now that cases are notified it is found that the incidence is only slightly higher among males than among females. During the year 1915 1,545 males were notified to be suffering from the disease and 1,482 females, while the mortality rate per 1,000 among males was 1·72 and among females 0·89.

#### NON-PULMONARY TUBERCULOSIS.

There were 491 new cases notified during the year, with 236 deaths. The relative incidence of this disease is indicated by the mortality as shown below:—

#### MORTALITY FROM OTHER FORMS OF TUBERCULOSIS.

|      |     | No.<br>of<br>Deaths. |     | Death-rate<br>in<br>Birmingham. |     | Death-rate<br>in England<br>and Wales. |
|------|-----|----------------------|-----|---------------------------------|-----|--|
| 1901 | ... | 395                  | ... | ·52                             | ... | ·54                                    |
| 1902 | ... | 285                  | ... | ·37                             | ... | ·51                                    |
| 1903 | ... | 370                  | ... | ·48                             | ... | ·54                                    |
| 1904 | ... | 351                  | ... | ·45                             | ... | ·54                                    |
| 1905 | ... | 322                  | ... | ·41                             | ... | ·49                                    |
| 1906 | ... | 295                  | ... | ·37                             | ... | ·50                                    |
| 1907 | ... | 343                  | ... | ·43                             | ... | ·47                                    |
| 1908 | ... | 287                  | ... | ·35                             | ... | ·47                                    |
| 1909 | ... | 248                  | ... | ·30                             | ... | ·45                                    |
| 1910 | ... | 270                  | ... | ·32                             | ... | ·42                                    |
| 1911 | ... | 272                  | ... | ·32                             | ... | ·38                                    |
| 1912 | ... | 204                  | ... | ·24                             | ... | ·33                                    |
| 1913 | ... | 300                  | ... | ·34                             | ... | ·34                                    |
| 1914 | ... | 234                  | ... | ·27                             | ... | ·32                                    |
| 1915 | ... | 236                  | ... | ·27                             | ... | —                                      |

Unlike Pulmonary Tuberculosis, there is a definite indication not only in Birmingham but in the figures for England and Wales that the disease is diminishing in its fatal form. It will be noted also that the disease causes a lower death-rate in Birmingham than in the whole of England and Wales.

The next table shows the number of cases of each type of Non-Pulmonary Tuberculosis notified and the total deaths:—

|   |     |     |     | Cases<br>notified. | Deaths not<br>notified<br>as cases. | Total<br>Deaths. |
|---|-----|-----|-----|--------------------|-------------------------------------|------------------|
| Tubercular Meningitis                       | ... | ... | ... | 45                 | 32                                  | 71               |
| Abdominal Tuberculosis                      | ... | ... | ... | 129                | 37                                  | 91               |
| Tuberculosis of Spine...                    | ... | ... | ... | 17                 | 10                                  | 14               |
| Tuberculosis of Joints                      | ... | ... | ... | 29                 | 3                                   | 8                |
| Tuberculosis of other organs, mostly glands | ... | ... | ... | 242                | 11                                  | 15               |
| Disseminated Tuberculosis                   | ... | ... | ... | 29                 | 19                                  | 37               |



*Notified Cases of Non-Pulmonary Tuberculosis, 1915.*

|                   | MENINGITIS. |         | ABDOMINAL. |       | SPINE.  |       | JOINTS. |         | OTHER ORGANS. |       | DISSEMINATED. |       |     |    |    |
|-------------------|-------------|---------|------------|-------|---------|-------|---------|---------|---------------|-------|---------------|-------|-----|----|----|
|                   | Males       | F'males | Total      | Males | F'males | Total | Males   | F'males | Total         | Males | F'males       | Total |     |    |    |
| Under 1 year ...  | 7           | 4       | 11         | 38    | 20      | 58    | —       | —       | —             | 1     | 1             | 2     | 3   | —  | 3  |
| 1 and under 2 ... | 5           | 4       | 9          | 11    | 6       | 17    | 1       | 1       | 2             | —     | —             | —     | 3   | 3  | 6  |
| 2 " 3 ...         | 2           | 5       | 7          | 9     | 3       | 12    | 3       | —       | 3             | —     | 1             | 1     | 4   | 1  | 5  |
| 3 " 4 ...         | 1           | 1       | 2          | 2     | 3       | 5     | —       | —       | —             | 1     | 1             | 2     | 9   | —  | —  |
| 4 " 5 ...         | 3           | 1       | 4          | 2     | 3       | 5     | —       | 1       | 1             | 1     | 4             | 3     | 7   | —  | —  |
| 5 " 10 ...        | 5           | 4       | 9          | 11    | 3       | 14    | 3       | 1       | 4             | 2     | 4             | 6     | 94  | 2  | 4  |
| 10 " 15 ...       | —           | —       | —          | 5     | 2       | 7     | 1       | —       | 1             | 1     | 3             | 4     | 65  | 2  | 4  |
| 15 " 20 ...       | 1           | 1       | 2          | 1     | —       | 1     | 1       | —       | 1             | 1     | 1             | 2     | 17  | 1  | 1  |
| 20 " 25 ...       | —           | —       | —          | 2     | —       | 2     | —       | 1       | 1             | 2     | 4             | 6     | 12  | —  | 1  |
| 25 " 35 ...       | 1           | —       | 1          | 1     | 2       | 3     | —       | 1       | 1             | 2     | 4             | 4     | 13  | —  | 1  |
| 35 " 45 ...       | —           | —       | —          | 2     | 2       | 4     | 1       | 2       | 3             | 1     | 1             | 2     | 8   | 1  | 2  |
| 45 " 55 ...       | —           | —       | —          | —     | 1       | 1     | —       | —       | —             | 1     | 1             | 1     | 1   | 1  | 1  |
| 55 " 65 ...       | —           | —       | —          | —     | —       | —     | —       | —       | —             | 4     | 1             | 5     | 5   | —  | —  |
| Over 65 ...       | —           | —       | —          | —     | —       | —     | —       | —       | —             | —     | —             | —     | —   | 1  | 1  |
| All Ages ...      | 25          | 20      | 45         | 84    | 45      | 129   | 10      | 7       | 17            | 12    | 17            | 29    | 242 | 15 | 29 |

## ADMINISTRATIVE PROCEDURE.

Precisely similar procedure was adopted during 1915 as in the previous year, except, indeed, in so far that there was some slight alteration in the hospital and sanatorium arrangements and the attention paid to tubercular patients was even more defined in 1915 than in 1914. This statement is true in all departments of the work, not only in the house to house visitation of the patients and in the examination of them at the Tuberculosis Dispensary, but also in the rapidity with which selected cases were admitted to the Sanatorium and as to the number of hospital cases admitted to the hospitals.

## REPORT ON THE TREATMENT OF TUBERCULOSIS.

(BY DR DIXON, CHIEF TUBERCULOSIS OFFICER.)

A large proportion of the treatment of Pulmonary Tuberculosis in Birmingham is undertaken in institutions under the control of the Public Health Department, by the General Hospitals, and by institutions working in conjunction with, and in some instances subsidised by, the Municipal Authority; included amongst the latter are the Romsley Hill Sanatorium, with 140 beds, 120 of which are reserved for patients sent in by the Public Health Department; and the Special Department of the General Dispensary in Great Charles Street.

The doctors on the panel of the Local Insurance Committee and private practitioners also treat a number of tuberculous persons.

The institutions engaged in the treatment of Pulmonary Tuberculosis are:—

*The Anti-Tuberculosis Centre, 44a Broad Street (Municipal)*, the medical staff of which is: Dr. G. B. Dixon, Chief Tuberculosis Officer; Dr. J. R. McGregor, Dr. S. H. Stewart and Dr. E. Glover, Tuberculosis Officers. With the exception of Dr. Glover, who is also Medical Superintendent of Salterley Grange, these doctors constitute the staff of the Yardley Road Sanatorium. In addition, there is a part-time staff of two doctors who assist in the evening work of treatment.

*The Yardley Road Sanatorium (288 beds) (Municipal), situated within the city boundary.* Medical Superintendent, Dr. G. B. Dixon; Resident Medical Officers, Dr. J. R. McGregor and Dr. S. H. Stewart; Matron, Miss Moore.

*The Salterley Grange Sanatorium, near Cheltenham (Municipal), 97 beds.* Medical Superintendent, Dr. E. Glover; Matron, Miss Mason.

*The West Heath Hospital (Municipal)* has 58 beds for the treatment of acute cases of Pulmonary Tuberculosis. Temporary Visiting Medical Superintendent, Dr. Aldridge; Matron, Miss Bywater.

*Witton Hospital (Municipal)* has accommodation for 70 female patients who are suffering from Pulmonary Tuberculosis. Temporary Visiting Medical Superintendent, Dr. P. Campbell; Matron, Miss Thornton.

*The Romsley Hill Sanatorium (Birmingham Hospital Saturday Fund)*, 140 beds, of which 120 are rented by the Public Health Committee, which are filled, when possible, by patients subscribing to the Hospital Saturday Fund. Medical Superintendent, Dr. P. Allan; Matron, Miss Murray.

*The Special Department, General Dispensary, Great Charles Street*, is an out-patient department for the treatment of Tuberculosis; it is a unit for the treatment of Tuberculosis in the Municipal Scheme, and receives a subsidy from the City Council. Medical Superintendent, Dr. Carver; Assistant, Dr. Moorhead.

In April, 1915, certain Hospitals belonging to the Guardians of the Poor of this city were required for military purposes; in consequence, arrangements were made whereby the Public Health Committee undertook the residential institutional treatment of Poor-Law patients suffering from Pulmonary Tuberculosis. To treat this increased number of patients, the two existing pavilions for male patients at Yardley Road Sanatorium were reserved for Poor-Law male patients, a third pavilion was reconstructed and opened, three large pavilions for day use were built, and other structural alterations made, increasing the total number of beds from 199 to 288; the beds for male patients at Yardley Road Sanatorium being occupied entirely by the Guardians' patients, with the exception of four observation beds.

To make good the number of beds available for insured and other persons after this arrangement, additional beds were provided at both Salterley Grange and Romsley Hill Sanatoria, providing accommodation for 30 patients respectively in each. The number of beds available at West Heath Hospital for Tuberculous patients was also increased by 12.

Witton Hospital, with 70 beds, is reserved entirely for Poor-Law female Tuberculous patients.

The patients admitted by the Guardians to the men's pavilions at Yardley Road Sanatorium and to the Witton Hospital are necessarily sent in without any medical selection being made; as a result they often include those whose capability for employment is past; in fact, a certain number are admitted in a dying condition. I refer to this because the mortality rate of the Poor-Law cases is very much higher than that of the other patients.

## THE ANTI-TUBERCULOSIS CENTRE.

All cases of Pulmonary Tuberculosis (notified to the Medical Officer of Health) who desire treatment are examined at the Anti-Tuberculosis Centre, Broad Street, and a suitable form of treatment is decided upon, at the same time useful advice and instruction are given on the subjects of dietary, ventilation, sputum collection and disinfection, and occupation, etc.

In some instances it is possible to commence treatment at the Centre at once, preliminary Sanatorium treatment not being necessary, and in most of these cases the patient is able to continue employment whilst receiving treatment. Those requiring Sanatorium treatment are sent for varying periods to one of the Sanatoria mentioned above.

In a large city there can be no doubt about the utility of giving a period of residential treatment to as many patients as possible. Early cases of tuberculosis are greatly benefitted if ultimate arrest of the disease is expected, and advanced infective cases, who show no prospect of arrest, should receive, when the necessary beds are available, a short period of residential treatment in order to obtain practical experience of the methods necessary to prevent infection.

The time spent in the Sanatorium is for varying periods, and has to be largely determined by circumstances and conditions surrounding each patient.

As far as possible the beds at Salterley Grange are reserved for those whose disease is such that arrest may be looked for.

Patients with acute extensive disease requiring prolonged and complete rest are received into the West Heath Hospital. Others whose disease is in an intermediate condition are treated in the pavilions for females and children at Yardley Road and at Romsley Hill Sanatoria.

Poor-Law male patients are treated at Yardley Road and the females at Witton Hospital.

Whilst in the Sanatoria patients experience the advantage of living in the open air, they have the benefit of a generous supply of good food, their sputum is carefully collected and destroyed, and the period of time to be spent in rest and exercise is supervised daily. In addition, they receive useful instruction on all these points, which teaches them how to convert their own homes into modified Sanatoria, where they may live without infecting their relatives, and with a prospect of having their disease arrested when it is not too advanced.

On their return from the Sanatoria they are again examined at the Centre, where many continue to attend as out-patients; some, however, return to their own doctors. The patients attending the Centre are examined from time to time, and those who have been patients in the past are re-examined again after varying intervals of time.

The Anti-Tuberculosis Centre is open daily, including the evenings, on five days a week, and on Saturdays for half the day. New patients are examined and old patients are re-examined by appointment, during the mornings and afternoons.

Treatment is given during the evenings to those who are working, and in the afternoons to children and those women and men who are not working.

Those who have been in contact with persons suffering from Tuberculosis are examined at appointed times convenient for them.

During the calendar year, which differs slightly from the registration year, the total number of attendances at the Centre was 42,544; this number includes the attendances both for treatment and examination.

2,589 new patients (including contacts) were examined during the year. Of these 2,589 new patients examined, 1,678 were recommended for initial treatment in a Sanatorium, this being essential in many cases both for the purpose of education and of treatment. It is too frequently impossible to get patients to adopt even the most simple form of Sanatorium method at home without first receiving practical instruction in a Sanatorium, and without this out-patient treatment loses much of its utility. In addition to the new patients we examined, there were 2,731 re-examinations of other patients.

The total number of contacts or suspects examined and classified was 845; not included in this number are 108 who at the end of the year were still under observation, whose examinations were not completed.

Of the 845 contacts whose examination and classification was completed 404 presented no signs of active disease, and, therefore, required no treatment; 359 were advised for Sanatorium treatment; 67 were recommended for out-patient and 15 for domiciliary treatment.

## NUMBER OF PATIENTS TREATED.

In 1915 the names of 2,285 patients were on the register as having received treatment as out-patients; of these 1,014 were males and 1,271 were females; 544 of the males were insured persons and 418 of the females.

At the end of the year 300 patients had completed a satisfactory course of treatment; 1,002 were still undergoing treatment, and 953 had discontinued treatment. The largeness of this latter figure is mainly accounted for by the prevailing conditions of labour. A number of our patients, chiefly females, have undertaken factory work who previously worked at home. In many instances both male and female factory hands are working for so exceptional a number of hours each week that it is impossible for them to continue their attendances at the Centre; others, working by night, are also unable to attend; some have removed to other localities, and a number have undertaken military service.



Insured persons who have been unable through work or health conditions to continue their treatment with us have been transferred for domiciliary treatment to their panel doctors, many of the uninsured persons have returned to their own doctors. Thirty patients included in this list are known to have died.

#### CLASSIFICATION OF OUT-PATIENTS RECEIVING TREATMENT.

Below is given the number of patients in the different stages of the disease and the number in each stage in whose sputum tubercle bacilli were found, the number in whose sputum these bacilli were absent, and the number with no sputum is also noted.

#### STAGE OF THE DISEASE.

Of the 2,285 patients 1,168 were in Stage I. (Turban-Gerhardt) of the disease, 705 were in Stage II., and 385 were in Stage III., whilst 27 were unclassified.

#### RESULTS OF THE EXAMINATION OF SPUTA.

Of the 1,168 patients in Stage I. 305 were found to have tubercle bacilli in the sputum, 355 had sputum in which these bacilli were not found, and 640 had no sputum. 375 of the 705 in Stage II. presented tubercle bacilli in the sputum; in 204 instances where sputum was present these bacilli were not found, and 126 in this stage had no sputum. 316 of the 385 patients in Stage III. were found to have tubercle bacilli in the sputum; they could not be demonstrated in 52 cases where sputum was present, and 17 patients in this stage were without sputum.

#### WORKING CAPACITY.

The following tables show the working capacity before and after treatment of all patients who could be classified, and who had received any treatment at the Centre during the year. It should be stated that in a large percentage of the cases the out-patient treatment was subsequent to treatment in one of the sanatoria.

| Working Capacity.     |     |     |     |     |     |     | Before Treatment. |       | After Treatment. |     |       |
|-----------------------|-----|-----|-----|-----|-----|-----|-------------------|-------|------------------|-----|-------|
|                       |     |     |     |     |     |     | %                 |       | %                |     |       |
| STAGE I.              |     |     |     |     |     |     |                   |       |                  |     |       |
| Unimpaired            | ... | ... | ... | ... | ... | ... | 323               | 27·65 | ...              | 583 | 49·91 |
| Impaired ...          | ... | ... | ... | ... | ... | ... | 761               | 65·15 | ...              | 533 | 45·63 |
| Totally incapacitated | ... | ... | ... | ... | ... | ... | 84                | 7·19  | ...              | 52  | 4·45  |
|                       |     |     |     |     |     |     | <hr/>             |       | <hr/>            |     |       |
|                       |     |     |     |     |     |     | 1,168             |       | 1,168            |     |       |
| STAGE II.             |     |     |     |     |     |     |                   |       |                  |     |       |
| Unimpaired            | ... | ... | ... | ... | ... | ... | 115               | 16·31 | ...              | 307 | 43·53 |
| Impaired ...          | ... | ... | ... | ... | ... | ... | 438               | 62·12 | ...              | 296 | 41·98 |
| Totally incapacitated | ... | ... | ... | ... | ... | ... | 152               | 21·56 | ...              | 102 | 14·46 |
|                       |     |     |     |     |     |     | <hr/>             |       | <hr/>            |     |       |
|                       |     |     |     |     |     |     | 705               |       | 705              |     |       |
| STAGE III.            |     |     |     |     |     |     |                   |       |                  |     |       |
| Unimpaired            | ... | ... | ... | ... | ... | ... | 24                | 6·23  | ...              | 84  | 21·81 |
| Impaired ...          | ... | ... | ... | ... | ... | ... | 215               | 55·84 | ...              | 174 | 45·19 |
| Totally incapacitated | ... | ... | ... | ... | ... | ... | 146               | 37·92 | ...              | 127 | 32·98 |
|                       |     |     |     |     |     |     | <hr/>             |       | <hr/>            |     |       |
|                       |     |     |     |     |     |     | 385               |       | 385              |     |       |

#### CLASSIFICATION OF THOSE PATIENTS WHO COMPLETED A COURSE OF TREATMENT DURING THE YEAR.

During the year 300 patients completed a satisfactory course of treatment, and it has been possible to classify the results in 292 instances. The results are arranged to show the changes in the weight, working capacity, condition of the disease, and the presence or absence of tubercle bacilli in the sputum before and after treatment.

| Weight (after Treatment). |             |             | Working Capacity (after Treatment). |             |        |
|---------------------------|-------------|-------------|-------------------------------------|-------------|--------|
| Increased.                | Diminished. | Stationary. | Improved.                           | Stationary. | Worse. |
| %                         | %           | %           | %                                   | %           | %      |
| 256 87.68                 | 31 10.61    | 5 1.71      | 198 67.81                           | 93 31.85    | 1 .34  |

## CONDITION OF DISEASE.

| Before Treatment. |          |            | After Treatment. |            |              |
|-------------------|----------|------------|------------------|------------|--------------|
| Active.           |          | Quiescent. | Active.          |            | Quiescent.   |
| 292               | %<br>100 | 0          | 137              | %<br>46.91 | 155<br>53.08 |

## TUBERCLE BACILLI.

| Before Treatment. |     |       |   | After Treatment. |       |
|-------------------|-----|-------|---|------------------|-------|
|                   |     |       |   |                  |       |
|                   |     |       | % |                  | %     |
| Present ...       | 111 | 38.02 |   | 23               | 7.88  |
| Not demonstrated  | 135 | 46.23 |   | 152              | 52.05 |
| No sputum ...     | 46  | 15.75 |   | 117              | 40.06 |
|                   | 292 |       |   | 292              |       |

The number of specimens examined in the Laboratory during the year was 3,373.

## REPORT ON YARDLEY ROAD SANATORIUM.

(By DR. DIXON, MEDICAL SUPERINTENDENT.)

During the past year the number of beds at the Yardley Road Sanatorium has again been largely increased. This was necessitated by an arrangement made between the Public Health Committee and the Guardians for the treatment of Poor Law male patients suffering from Tuberculosis. The Pavilion "B," which had been used previously for storage, was re-modelled, and fitted with an enlarged sanitary annexe containing baths and w.c.'s. The accommodation in the existing pavilions for males was also increased, and three pavilions were erected for day use in proximity to the existing pavilions, each with a southerly aspect.

In addition, it was found to be necessary to provide increased mortuary accommodation. For this purpose a cow-shed, situated in the north-east corner of the grounds, was re-modelled and adapted. It consists of three parts, a large central chamber in which the bodies are placed, opening from this on one side is a "viewing" chamber entered by friends from the outside, where bodies can be viewed through a glass partition. From the opposite side of the central room a door-way opens into the port-mortem operating room. The mortuary is so situated that the path approaching it does not come under the direct observation of any of the pavilions; undertakers' conveyances also have a direct entrance to it from the main road without approaching the Institution.

The old mortuary, as a result of the different additions to the Institution, now stands in the midst of other buildings; it has been fitted up as a sanitary annexe for the observation cubicles used for male patients.

The total number of beds in the Sanatorium is now 288; of these 68 are reserved for female patients, 64 being in the main pavilion and four in the cubicles set apart for those coming in for the purpose of observation. For children there are 54 beds, 44 being in the main pavilion, and 10 in the observation block; all children spend from two to three weeks in the observation block. The remaining 166 beds are occupied by the Guardians' patients, with the exception of four in the observation cubicles for men. The observation beds in the Institution have proved to be of the greatest benefit. They are occupied by those on whom it is found impossible to express a definite opinion as to the presence or not of definite Tuberculosis when examined in the out-patient department. A few weeks spent under close observation, with repeated clinical and laboratory examinations, and where necessary, with the assistance of different test methods, is usually sufficient to clear up any doubts. The observation block in connection with the children's pavilion has the additional advantage that during the time spent under observation most of the infectious diseases to which children are susceptible will develop, if the child has been infected prior to admission.

During the past year a certificated school mistress has been employed for the children, desks and the necessary school equipment being supplied. All school work has been carried out in an open pavilion, and frequently in the playground. Up to the end of the year we were not compelled by weather conditions to hold the school in the dining room on more than five occasions.

The time which each child gives to school work is carefully determined by the doctor daily. On an average about thirty-five children are able to attend school in the mornings, but fewer

usually attend in the afternoons. For most subjects the children are divided into three classes. One of the older pupils acts as a monitor and helps with the younger children. The school hours are from 9—12 and from 2—4, with a short rest in both the morning and afternoon. The timetable is so arranged that the more tiring subjects are taken in the morning. Careful attention is given to arithmetic, reading, writing, composition, nature study, singing, and scripture, and part of each day is devoted to drill and games. The children are taught handwork, *i.e.*, drawing, painting, cardboard work, clay-modelling, sewing, knitting, basket and various kinds of raffia work, which provides them with pleasant occupations.

The advantages of interesting and carefully regulated occupations for child patients is obvious; they are happier, make more progress, and are frequently unwilling to leave when the time comes to return home.

On discharge a letter is sent to the schoolmaster in charge of the school which the child will attend stating whether the case is an infectious one or not, and asking that the child may be submitted to no unusual mental or physical strain; he is also asked to communicate with the parents if there is reason to think the child is failing.

Arrangements were made in the early part of the year with Mr. Hall-Rose to visit the Sanatorium once a week, and give the patients instructions and exercises in breathing. Quite a number of our patients when they come to us are unable to breathe properly; to these such instruction as is given is not only an advantage, it is almost a necessity. Most of the patients like the instruction, and certainly benefit by it.

#### SANATORIUM TREATMENT.

In the Municipal and the Romsley Hill Sanatoria the treatment given to patients is on similar lines; it comprises hygienic and dietetic treatment, graduated rest and work, the employment of appropriate drugs when indicated, specific treatment by means of the various tuberculins, etc., and heliotherapy, or treatment by the direct action of the sun's rays. The production of artificial pneumothorax has also been recently adopted; by this means an acutely diseased lung is given rest by rendering it immobile, and healing is thus promoted. To render the lung immobile, nitrogen or other gas is injected into the thoracic cavity, between the lung and the thoracic wall, producing temporary collapse of the lung.

The advantage of a locality where the sunshine record is high has long been recognised in the treatment of Tuberculosis, and this is undoubtedly one of the factors which renders the high Alpine resorts so suitable for the treatment of Tuberculosis. The practice of "sun treatment" for Tuberculosis and other diseases was carried out at Veldes, in Austria, by Rikli many years ago, and was subsequently advocated by Huggard, of Davos-Platz. In recent years it has been systematised and strongly advocated by Rollier, of Leysin.

In 1913 I visited Leysin, and had the opportunity of seeing Rollier's methods, and examining some of the patients under treatment. Heliotherapy is undoubtedly of great benefit in cases of bone, skin, and abdominal Tuberculosis; it is also beneficial in some cases of Pulmonary Tuberculosis.

Rollier attaches much importance to the production of pigmentation (or "sun burn") of the skin, and thinks that the best results are not obtained until marked pigmentation occurs. Patients who do not pigment well seldom benefit so much as those who do.

Heliotherapy is not rigidly applied to the part of the body affected; the best results are perhaps obtained when the application to the skin surface is general, and the general application of the sun's rays to the body is said to exert an influence upon the respiratory and circulatory systems.

The most striking results from heliotherapy are seen in the healing of chronic sinuses, and in the increased movement of Tuberculous joints previously more or less fixed. The sun treatment requires care and judgment in its application if good results are to be obtained.

Treatment in the Sanatorium represents only a part of the patients' course of treatment, whilst he is being treated there he obtains experience and practical knowledge which should enable him afterwards to continue a modified form of treatment at home, in many cases, whilst following his occupation.

It should be noted that the figures quoted under this heading do not represent the results of a complete course of treatment; they are a record of the patients' condition when he leaves the Sanatorium to continue under his own doctor or at the Centre.

#### CLASSIFICATION OF PATIENTS.

##### *Number, Age and Occupations.*

During the year 1915 1,080 patients were discharged from the Sanatorium and 1,298 were admitted; of these 723 were males and 575 were females.

In a large manufacturing city like Birmingham it is exceedingly difficult to classify in detail all the occupations of our different patients.

In a list of occupations of the 1,298 patients who were admitted during the year only 122 males and 9 females can be returned as having outdoor occupations.



The age incidence of those admitted to the Sanatorium is given in the following table:—

| Age.          |     |     |     |     | Males. |     |     | Females. |
|---------------|-----|-----|-----|-----|--------|-----|-----|----------|
| In 1st decade | ... | ... | ... | ... | 120    | ... | ... | 98       |
| „ 2nd         | „   | ... | ... | ... | 91     | ... | ... | 120      |
| „ 3rd         | „   | ... | ... | ... | 80     | ... | ... | 171      |
| „ 4th         | „   | ... | ... | ... | 168    | ... | ... | 101      |
| „ 5th         | „   | ... | ... | ... | 129    | ... | ... | 66       |
| „ 6th         | „   | ... | ... | ... | 94     | ... | ... | 17       |
| „ 7th         | „   | ... | ... | ... | 39     | ... | ... | 2        |
| „ 8th         | „   | ... | ... | ... | 2      | ... | ... | —        |
| Total         | ... | ... | ... | ... | 723    | ... | ... | 575      |

#### RESULTS OF TREATMENT.

##### Weight.

Patients in the Sanatorium are weighed once weekly, and on the days of admission and discharge. In times past too much attention was undoubtedly given in Sanatoria to producing large increases in the weight.

Where the patient's weight has been below the average as compared with his height or below his normal, it is always well to attempt to increase it, but enormous increases produced by excessive feeding and insufficient exercise are not only worthless; they are occasionally harmful. Increases so obtained usually disappear when the patient returns home and resumes his occupation, frequently giving rise to disappointment and depression.

589 male patients were discharged from the Sanatorium during the year; of these 469, or 79·6%, gained weight, 10 lost weight, 18 remained stationary, and 92 died, and were too ill to admit of records being taken. 491 female patients were discharged during the year, 437, or 89%, gained weight, 33 lost weight, and 21 remained stationary.

Below the patients are classified in two tables according to their sex. These tables give the numbers and percentage of those with and without tubercle bacilli in the sputum, and of those with no sputum, before and after treatment. 134 men and 84 women still remained in the Sanatorium when these tables were made out at the end of the year, and therefore do not appear in the list.

##### MEN (BEFORE TREATMENT).

| Turban-Gerhardt Stadii. |     |     |     | No. of Cases. | Percentage of Total No. | Tubercle Bacilli present. |            | Tubercle Bacilli absent. |            | No Sputum present. |            |
|-------------------------|-----|-----|-----|---------------|-------------------------|---------------------------|------------|--------------------------|------------|--------------------|------------|
|                         |     |     |     |               |                         |                           | Percent'ge |                          | Percent'ge |                    | Percent'ge |
| I.                      | ... | ... | ... | 207           | 35·57                   | 34                        | 16·43      | 69                       | 33·33      | 104                | 50·24      |
| II.                     | ... | ... | ... | 147           | 25·25                   | 73                        | 49·66      | 40                       | 27·21      | 34                 | 23·12      |
| III.                    | ... | ... | ... | 228           | 39·17                   | 199                       | 87·28      | 27                       | 11·84      | 2                  | ·88        |
| Total                   | ... | ... | ... | 582           |                         | 306                       |            | 136                      |            | 140                |            |

##### MEN (AFTER TREATMENT).

| Turban-Gerhardt Stadii. |     |     |     | No. of Cases.    | Percentage of Total No. | Tubercle Bacilli present. |            | Tubercle Bacilli absent. |            | No Sputum present. |            |
|-------------------------|-----|-----|-----|------------------|-------------------------|---------------------------|------------|--------------------------|------------|--------------------|------------|
|                         |     |     |     |                  |                         |                           | Percent'ge |                          | Percent'ge |                    | Percent'ge |
| I.                      | ... | ... | ... | 207              | 42·24                   | 31                        | 14·98      | 49                       | 23·67      | 127                | 61·35      |
| II.                     | ... | ... | ... | 141              | 28·77                   | 61                        | 43·26      | 42                       | 29·79      | 38                 | 26·95      |
| III.                    | ... | ... | ... | 142              | 28·97                   | 103                       | 72·53      | 22                       | 15·49      | 17                 | 11·97      |
| Total                   | ... | ... | ... | 490<br>(Died 92) |                         | 195                       |            | 113                      |            | 182                |            |

##### WOMEN (BEFORE TREATMENT).

| Turban-Gerhardt Stadii. |     |     |     | No. of Cases. | Percentage of Total No. | Tubercle Bacilli present. |            | Tubercle Bacilli absent. |            | No Sputum present. |            |
|-------------------------|-----|-----|-----|---------------|-------------------------|---------------------------|------------|--------------------------|------------|--------------------|------------|
|                         |     |     |     |               |                         |                           | Percent'ge |                          | Percent'ge |                    | Percent'ge |
| I.                      | ... | ... | ... | 252           | 52·71                   | 20                        | 7·95       | 88                       | 34·91      | 144                | 57·14      |
| II.                     | ... | ... | ... | 180           | 37·66                   | 69                        | 38·33      | 55                       | 30·55      | 56                 | 31·11      |
| III.                    | ... | ... | ... | 46            | 9·62                    | 38                        | 82·60      | 6                        | 13·04      | 2                  | 4·35       |
| Total                   | ... | ... | ... | 478           |                         | 127                       |            | 149                      |            | 202                |            |

## WOMEN (AFTER TREATMENT).

| Turban-Gerhardt Stadii. |     |     |     | No. of Cases. | Percentage of Total No. | Tubercle Bacilli present. |            | Tubercle Bacilli absent. |            | No Sputum present. |            |
|-------------------------|-----|-----|-----|---------------|-------------------------|---------------------------|------------|--------------------------|------------|--------------------|------------|
|                         |     |     |     |               |                         |                           | Percent'ge |                          | Percent'ge |                    | Percent'ge |
| I.                      | ... | ... | ... | 252           | 52.71                   | 8                         | 3.17       | 77                       | 30.55      | 167                | 66.26      |
| II.                     | ... | ... | ... | 180           | 37.66                   | 44                        | 24.44      | 64                       | 35.55      | 72                 | 40.00      |
| III.                    | ... | ... | ... | 46            | 9.62                    | 24                        | 52.17      | 17                       | 36.95      | 5                  | 10.87      |
| Total                   | ... | ... | ... | 478           |                         | 76                        |            | 158                      |            | 244                |            |

## TURBAN-GERHARDT CLASSIFICATION.

*Group I.*—Disease of slight severity, limited to small areas on either side, which in the case of infection of both apices does not extend below the spine of the scapula or the clavicle, or, in the case of affection of the apex of one lung, does not extend below the second rib in front.

*Group II.*—Disease of slight severity, more extensive than Stage I, but affecting at most the whole of one lobe, or severe disease extending at most to the half of one lobe.

*Group III.*—All cases of greater severity than Group II., and all those with considerable cavities.

*Group IV.*—Includes those cases where no disease can be found or where the lesion is definitely proved to be obsolete.

It should be remembered that the above classification is an arbitrary one, and cannot be regarded as a scale by which the patient's prospects of recovery can be measured. Recovery, or the possibility of procuring quiescence of the disease, depends largely upon the patient's powers of resistance, and the possibility of effectively stimulating them. An individual in Group III. of the disease, with good powers of resistance, may have a better outlook than one in Group I. who has poor resistance.

## WORKING CAPACITY (MEN).

| Turban-Gerhardt Stadii. |     |     |    | Before Treatment |       |            |       |                        |       | After Treatment. |       |            |       |                        |       |
|-------------------------|-----|-----|----|------------------|-------|------------|-------|------------------------|-------|------------------|-------|------------|-------|------------------------|-------|
|                         |     |     |    | Unimpaired.      |       | Impaired.  |       | Totally Incapacitated. |       | Unimpaired.      |       | Impaired.  |       | Totally Incapacitated. |       |
| I.                      | ... | ... | 69 | %<br>33·33       | 123   | %<br>59·42 | 15    | %<br>7·24              | 152   | %<br>73·42       | 49    | %<br>23·67 | 6     | %<br>2·89              |       |
| II.                     | ... | ... | 11 | 7·49             | 102   | 69·38      | 34    | 23·12                  | 50    | 35·46            | 60    | 42·54      | 31    | 21·99                  |       |
| III.                    | ... | ... | 4  | 1·75             | 70    | 30·70      | 154   | 67·54                  | 24    | 16·90            | 54    | 38·03      | 64    | 45·07                  |       |
| Died, 92                | ... |     |    |                  |       |            |       |                        |       |                  |       |            |       |                        |       |
|                         |     |     |    | 84               | 14·46 | 295        | 50·66 | 203                    | 34·87 | 226              | 46·12 | 163        | 33·26 | 101                    | 20·61 |

## WORKING CAPACITY (WOMEN).

| Turban-Gerhardt Stadii. |     |     |     | Before Treatment. |     |            |    |                        |     | After Treatment. |     |            |    |                        |  |
|-------------------------|-----|-----|-----|-------------------|-----|------------|----|------------------------|-----|------------------|-----|------------|----|------------------------|--|
|                         |     |     |     | Unimpaired.       |     | Impaired.  |    | Totally Incapacitated. |     | Unimpaired.      |     | Impaired.  |    | Totally Incapacitated. |  |
| I.                      | ... | ... | 83  | %<br>32.93        | 161 | %<br>63.88 | 8  | %<br>3.09              | 175 | %<br>69.44       | 75  | %<br>29.76 | 2  | %<br>.79               |  |
| II.                     | ... | ... | 34  | 18.88             | 95  | 52.77      | 51 | 28.33                  | 75  | 41.66            | 81  | 45         | 24 | 13.33                  |  |
| III.                    | ... | ... | —   | —                 | 26  | 56.52      | 20 | 43.47                  | 2   | 4.34             | 32  | 69.56      | 12 | 26.08                  |  |
|                         |     |     | 117 | 24.48             | 282 | 58.99      | 79 | 16.52                  | 252 | 52.72            | 188 | 36.19      | 38 | 7.94                   |  |

During the year 1,080 patients were discharged from the Sanatorium; from these 1,640 specimens of sputum were examined, with the following results:—

Number of patients in whose sputum tubercle bacilli were found ... 453—41.95%

Number of patients in whose sputum tubercle bacilli were not found ... 285—26.38%

Number of patients without sputum ... 342—31.66%

The total number of specimens examined in the Laboratory during the year was 2,300.



## REPORT ON SALTERLEY GRANGE SANATORIUM, 1915.

(By DR. GLOVER, MEDICAL SUPERINTENDENT.)

I beg to submit a report on the work of this Sanatorium for the year ending December 31st, 1915.

During the month of May arrangements were made to accommodate 29 additional cases, giving the Sanatorium a total capacity of 97 beds. This increase was effected by adding to the existing single chalets one extra bed, and by converting two and three-bed chalets into three and four-bedded rooms respectively. The unused attics of the administration block were opened up and converted into three bedrooms and a bathroom, thus giving accommodation for the necessary additional staff; a new linen-room was constructed out of a former lumber-room, and the original linen-room was converted into a staff-bedroom, the whole alteration being completed without any interference with existing outside walls, and consequently without damage to the architectural features of the administration block. Whilst most of the extra beds have been filled by male cases, it has been possible, owing to the absence of structural alterations, to deal with fluctuations of the admission list by taking female cases from time to time.

## ADMISSIONS.

During the twelve calendar months ending December 31st, 1915, 348 patients were admitted, of whom 221 were males and 127 females, and all of whom, excepting 58 (16 males and 42 females), were insured cases.

The admissions show an increase of 76 over those of the previous year, owing to the increase in the capacity of the Institution already noted.

Of 348 admitted 307 were sent direct from the Tuberculosis Centre, and 41 (30 males and 11 females) were transferred from Yardley Road Sanatorium.

## AGE INCIDENCE.

|                    | Males. | Females. | Total. |
|--------------------|--------|----------|--------|
| 10—15 years ... .. | 1      | 2        | 3      |
| 16—20 „ ... ..     | 33     | 13       | 46     |
| 21—30 „ ... ..     | 72     | 52       | 124    |
| 31—40 „ ... ..     | 69     | 47       | 116    |
| 41—50 „ ... ..     | 41     | 13       | 54     |
| 51—60 „ ... ..     | 5      | —        | 5      |
|                    | 221    | 127      | 348    |

## CLASSIFICATION OF PATIENTS.

As a rule the classification of patients entering this Sanatorium is a purely intermediate one, because a large percentage (25%—40%) are usually transferred from Yardley Road Sanatorium. This year, however, in spite of an inevitable increase in the number of old patients re-admitted, the cases transferred number only 41 (11·8%), and the Turban-Gerhardt classification is of more interest.

| Group (Turban-Gerhardt).   | Males. | Females. | Total. |
|----------------------------|--------|----------|--------|
| I. (slight) ... ..         | 58     | 42       | 100    |
| II. (mod. advanced) ... .. | 115    | 62       | 177    |
| III. (advanced) ... ..     | 41     | 13       | 54     |
| IV. ... ..                 | 7      | 10       | 17     |
|                            | 221    | 127      | 348    |

There are two striking features in this return—first the great increase in the number of moderately advanced cases admitted over that of last year (89 out of 272), and next the very small group of cases (Group. IV.), where the disease, seemingly active on admission, was found afterwards to be obsolete or inactive. The increased admission of more advanced cases is due to the distribution to other Sanatoria of cases formerly sent to Yardley Road Sanatorium.

The smallness of Group IV. is all the more striking when the high percentage of non-bacillary cases admitted is considered (see under Results of Treatment). In many Sanatoria about 60% of the non-bacillary cases are found to be cases of obsolete or inactive disease, and the low percentage of such cases is a striking commentary on the efficiency of the diagnostic methods applied at the Tuberculosis Centre.

## DISMISSALS.

During the same period 322 patients were dismissed, of whom 204 were males and 118 females.

It is of interest to note that, in spite of the increased admissions, the average duration of treatment per patient has been lengthened, amounting to 84·2 days, as against 73·9 days in 1914.

## CONDITION OF DISEASE ON DISMISSAL.

|               |     |     |     |     |     | Males. |     | Females. |     | Total. |
|---------------|-----|-----|-----|-----|-----|--------|-----|----------|-----|--------|
| Much improved | ... | ... | ... | ... | ... | 84     | ... | 35       | ... | 119    |
| Improved      | ... | ... | ... | ... | ... | 97     | ... | 57       | ... | 154    |
| In statu quo  | ... | ... | ... | ... | ... | 21     | ... | 22       | ... | 43     |
| Worse         | ... | ... | ... | ... | ... | 2      | ... | 4        | ... | 6      |
|               |     |     |     |     |     | 204    | ... | 118      | ... | 322    |

Some commentary on the above figures is necessary. With a disease of the chronic relapsing nature of Pulmonary Tuberculosis, arrest of disease at the end of a few months' treatment cannot reasonably be claimed, and the customary class termed "arrested" has been dispensed with. In its place has been put the category "Much Improved," a term applied to those who at the end of their period of treatment are either probably arrested or likely to become arrested within a few months.

Of the 119 cases noted here as "Much Improved" 12 (5 males and 7 females) were probably obsolete on admission; 13 (6 males and 7 females) were on dismissal almost certainly arrested, and the remainder were on the high road towards arrest.

The "Improved" cases include many who, although they had made marked progress from the time of admission, had no immediate prospects of arrest, and were moreover liable to a breakdown at any time. The remainder includes those who had definitely progressed, even if slightly, towards recovery.

The fairly large number of "In statu quo" cases is explained by the following table:—

## LEFT DURING TREATMENT.

|         |     |     |     |     |     | Much Improved. |     | Improved. |     | I.S.Q. |     | Worse. |
|---------|-----|-----|-----|-----|-----|----------------|-----|-----------|-----|--------|-----|--------|
| Males   | ... | ... | ... | ... | ... | 1              | ... | 11        | ... | 5      | ... | 1      |
| Females | ... | ... | ... | ... | ... | —              | ... | 4         | ... | 12     | ... | —      |
| Total   | ... | ... | ... | ... | ... | 1              | ... | 15        | ... | 17     | ... | 1      |

As a rule those going out did so within a short time of admission.

## WORKING CAPACITY.

The previous table does not fully indicate the benefit to the general health of the patient following on a course of treatment. This is detailed below:—

|               |               |     |     |     |     | Males. |     | Females. |     | Total. |
|---------------|---------------|-----|-----|-----|-----|--------|-----|----------|-----|--------|
| Unimpaired    | {on admission | ... | ... | ... | ... | 62     | ... | 46       | ... | 108    |
|               | {on dismissal | ... | ... | ... | ... | 135    | ... | 76       | ... | 211    |
| Impaired      | {on admission | ... | ... | ... | ... | 135    | ... | 70       | ... | 205    |
|               | {on dismissal | ... | ... | ... | ... | 61     | ... | 40       | ... | 101    |
| Incapacitated | {on admission | ... | ... | ... | ... | 7      | ... | 2        | ... | 9      |
|               | {on dismissal | ... | ... | ... | ... | 8      | ... | 2        | ... | 10     |

## WEIGHT.

|            |     |     |     |     |     | Males. |     | Females. |     | Total. |
|------------|-----|-----|-----|-----|-----|--------|-----|----------|-----|--------|
| Increased  | ... | ... | ... | ... | ... | 192    | ... | 110      | ... | 302    |
| Stationary | ... | ... | ... | ... | ... | —      | ... | 4        | ... | 4      |
| Decreased  | ... | ... | ... | ... | ... | 12     | ... | 4        | ... | 16     |

The greatest increase made by any one patient was:—31lbs. after 19 weeks' treatment.

## RESULTS OF SPUTUM EXAMINATIONS.

|           |     |     | Males. |    | Females. |    | Total. |     |
|-----------|-----|-----|--------|----|----------|----|--------|-----|
|           |     |     | A.     | D. | A.       | D. | A.     | D.  |
| T.B. +    | ... | ... | 89     | 59 | 19       | 16 | 108    | 75  |
| T.B. -    | ... | ... | 75     | 77 | 32       | 37 | 107    | 114 |
| No sputum | ... | ... | 40     | 68 | 67       | 65 | 107    | 133 |

The salient point of all such tables is, of course, the bacillary loss after treatment, and to appreciate this the following table is necessary.

|         |     |     |     |     |     | T.B. + becoming T.B. — or O. |     | O or T.B. — becoming T.B. + |    |
|---------|-----|-----|-----|-----|-----|------------------------------|-----|-----------------------------|----|
| Males   | ... | ... | ... | ... | ... | 41 (46.06%)                  | ... | ...                         | 11 |
| Females | ... | ... | ... | ... | ... | 8 (42.1%)                    | ... | ...                         | 5  |
| Total   | ... | ... | ... | ... | ... | 49 (45.39%)                  | ... | ...                         | 16 |

Cases where a positive find follows a negative find are of no importance, as the positive find is usually made within a few weeks of admission; on the other hand, the number of cases losing bacilli on dismissal is of the greatest importance, and is a most striking feature of the above report.

To mention one other Sanatorium where early cases are admitted—at the King Edward VII. Sanatorium (1912)—190 bacillary cases were admitted, of whom 50 (25·3%) had lost their bacilli on dismissal.

In this Institution the percentage works out to 45·39%, the methods of examination in both Institutions being identical. This high percentage is probably due to a large extent to the fact that cases admitted chiefly from the artisan groups of a city population commence their treatment with a more seriously depleted resistance than those admitted to a private Sanatorium, and, consequently, have a much better prognosis, provided Sanatorium conditions can be approximated to divining post-Sanatorium treatment.

The second point of interest is the high percentage of non-bacillary cases admitted, especially of female cases. This fact, taken in conjunction with the small number of obsolete cases admitted, indicates a high standard of efficiency in the early diagnostic methods not only of the Tuberculous Centre, but of the general practitioner.

#### SPECIFIC TREATMENT.

Of 322 cases dismissed, 241 (162 males and 79 females) received Tuberculin treatment. As before, the bulk of those treated were given P.T.O., in order that on dismissal their inoculation could be continued at the Tuberculosis Centre on a pre-arranged plan. Selected cases, either complicated by the presence of Tubercular glands or running a steady low fever, were treated with B.E., and a few were given A.F.

Unfortunately, it is impossible to estimate here the known beneficial influence of Tuberculin injections on the bacillary loss, as practically all suitable cases received inoculation treatment, and as in any case the injections given during the usual length of stay form merely the preliminary ground-work of a lengthy course of treatment. Apart from this, however, where immediate results were looked for, they were as a rule found to be satisfactory.

#### REPORT ON ROMSLEY HILL SANATORIUM.

(BY DR. PETER ALLAN, MEDICAL SUPERINTENDENT.)

The year 1915 was the second complete year that Romsley Hill Sanatorium was in full running order.

Appended is a report of the Birmingham patients treated at Romsley Sanatorium during 1915:—

|                              |     |     |     |     | Males. |     | Females. |
|------------------------------|-----|-----|-----|-----|--------|-----|----------|
| Resident 1st January, 1915   | ... | ... | ... | ... | 56     | ... | 29       |
| Admitted during year         | ... | ... | ... | ... | 404    | ... | 186      |
| Discharged during year       | ... | ... | ... | ... | 395    | ... | 181      |
| Resident 31st December, 1915 | ... | ... | ... | ... | 65     | ... | 34       |

The age incidence of the 590 patients admitted was as follows:—

|         |     | 10—15. | 16—19. | 20—29. | 30—39. | 40—49. | 50—60. |
|---------|-----|--------|--------|--------|--------|--------|--------|
| Males   | ... | 26     | 32     | 97     | 144    | 80     | 25     |
| Females | ... | 20     | 16     | 61     | 59     | 26     | 4      |
| Totals  | ... | 46     | 48     | 158    | 203    | 106    | 29     |

The following table shews the stage of the disease of the patients admitted according to the Turban Classification:—

|         |     |     |     |     | Stage I. | Stage II. | Stage III. | Non-Pulmonary<br>Tuberculosis. |
|---------|-----|-----|-----|-----|----------|-----------|------------|--------------------------------|
| Males   | ... | ... | ... | ... | 45       | 260       | 96         | 3                              |
| Females | ... | ... | ... | ... | 43       | 129       | 14         | —                              |
|         |     |     |     |     | 88       | 389       | 110        | 3                              |



On discharge the capacity for work of the 590 patients was as follows:—

|                | A.  | B.  | C. | Died. | Discontinued Treatment. |
|----------------|-----|-----|----|-------|-------------------------|
| Males ... ..   | 218 | 126 | 21 | 14    | 25                      |
| Females ... .. | 137 | 33  | 8  | 1     | 7                       |
| Totals ... ..  | 355 | 159 | 29 | 15    | 32                      |

A = Capacity for work *not* impaired; B = Capacity for work impaired; C = Capacity for work totally impaired.

The average length of residence was as follows:—

|                |         |
|----------------|---------|
| Males ... ..   | 60 days |
| Females ... .. | 63·8 „  |

The average gain in weight was:—Males, 8·3lbs., Females, 7·81lbs. Several patients gained up to 25lbs.

Tuberculin has not been exhibited in so many cases this year, as a smaller proportion of the cases seemed suitable for inoculation.

|                | Tuberculin. | No Tuberculin. |
|----------------|-------------|----------------|
| Males ... ..   | 153         | 251            |
| Females ... .. | 90          | 96             |
|                | 243         | 347            |

An analysis of the sputum of the patients admitted is as follows:—

|                | Tubercle Bacilli Present. | Tubercle Bacilli Absent. | No Sputum. |
|----------------|---------------------------|--------------------------|------------|
| Males ... ..   | 184                       | 177                      | 43         |
| Females ... .. | 32                        | 87                       | 67         |
|                | 216                       | 264                      | 110        |

The following table shews the condition of the 590 patients on discharge:—

|                | Improved. | Not Improved. | Died. | Discontinued Treatment. |
|----------------|-----------|---------------|-------|-------------------------|
| Males ... ..   | 333       | 32            | 14    | 25                      |
| Females ... .. | 162       | 16            | 1     | 7                       |
|                | 495       | 48            | 15    | 32                      |

The following complications were met with in the male patients:—Laryngeal Tuberculosis, 27 cases; Valvular Heart Disease, 14; Ischio-Rectal Abscess, 5; Pleurisy, with effusion, 5; Albuminuria, 4; Arterio-Sclerosis, 2; Asthma, 2; Genito-Urinary Tuberculosis, 2; Plastic Bronchitis, 1; Corneal Ulcer T.B., 1; Tumour of Liver, 1; Lupus, 1; Sarcoma, 1; Pneumo-Thorax, 1; Tubercular Ankle Joint, 1; Locomotor Ataxia, 1; Tubercular Glands, 1; Tubercular Hip Joint, 1; Tubercular Meningitis, 1; Abdominal Tuberculosis, 1; Ulcerative Rhinitis, 1; Melancholia, 1; Writer's Cramp, 1.

Complications met with in women patients:—Valvular Heart Disease, 13; Tubercular Larynx, 4; Goitre, 4; Tubercular Glands, 3; Movable Kidney, 2; Rectal Abscess, 1; Lupus, 1; Hip Joint Disease, 1; Rheumatism, 1; Mastitis, 1; Asthma, 1; Pregnancy, 1; Fits, 1; Cystitis, 1.

It will be noted that among the men there were 27 cases of Laryngeal Tuberculosis, roughly 6·6% of the men admitted. The experience gained by closely watching these cases is that the prognosis depends largely on the part of the larynx affected.

In cases where the anterior part of the larynx is affected the prognosis seems to be bad in the large majority of cases.

If the more posterior parts of the larynx are affected, there seems to be more hope of improvement, and the response to treatment is much better.

On the advice of Mr. Seymour Jones, F.R.C.S., Surgeon to the Ear and Throat Hospital, a Chloretone preparation has been used in the form of a spray, and this seems to give better results, as far as I can judge, than any other method of treatment I have seen. Laryngeal Tuberculosis has not been so common among the women patients, viz., 4 cases among 186 women, or, roughly, 2·2%.

Another point I have noted is the relative response to treatment between men and women. For instance, take two similar cases in the same stage (more especially in Stages II. and III.), one a man and the other a woman, and I have observed that the man will shew greater improvement than the woman.

This is seen to a certain extent in comparing the relative gain in weight.

The men admitted to Romsley Sanatorium were in the majority of instances relatively more severe and more advanced cases than the women, and note the relative gain in weight:—Average gain per man, 8·3lbs. in 60 days; average gain per woman, 7·81lbs. in 63·8 days.

Dr. Felix Savy, who was Assistant Medical Officer at Romsley Sanatorium at the commencement of the war, is now a Captain in the R.A.M.C., and has been appointed Tuberculosis Specialist for the Aldershot Command.

## WEST HEATH HOSPITAL REPORT.

At West Heath Hospital 195 Tuberculosis patients were admitted during the year; 129 were discharged, 43 died, and there were remaining 55 patients.

Dr. Aldridge sends the following account:—

At West Heath where the more advanced cases are treated the results must, of necessity, be less favourable than at other Sanatoria. A great many cases, however, have derived considerable benefit from the rest, food, and general hygienic treatment, so that they have been able to go back to work, and remain at work for some time. The work they return to is specially chosen to avoid risk to the patient, or other people with whom he may come in contact.

I feel very strongly the importance of providing suitable light work for patients who can do it. This must be most valuable from the point of view of getting the patients to be less introspective, and to make them feel that they are doing something useful. A few of the patients are willing to do gardening, etc., but the greater part give me the impression that they will do as little of anything really useful as they can. I believe the Brabazon Society that works at Selly Oak Infirmary might help us if approached. They teach the inmates there basket-making, wood-carving, hammock-making, mat-making, and similar occupations, all of which could be done in the open air. Any profit could be devoted to providing any little luxury that the patients might like, or could be spent in gramophone records or other similar way. I feel very strongly that at West Heath a definite effort should be made in this direction.

The new buildings for the Nursing Staff (although not entirely completed) are partially in use, and very much appreciated.

The Nursing Staff are most loyal and attentive, and try to make the patients happy and contented, under what are often very depressing circumstances.

## WITTON HOSPITAL REPORT.

At Witton Hospital 118 Tuberculosis patients were admitted, 35 were discharged, 29 died, and there remained 54.

Dr. Campbell sends the following report:—

This Hospital was opened for the treatment of female Tuberculous patients on April 16th 1915, when 41 cases from Erdington, Selly Oak and Dudley Road Infirmarys were admitted.

Having previously been used as a Scarlet Fever Hospital, there were several initial difficulties to be overcome, but with the addition of two lying-in shelters, ordinary treatment was made more satisfactory and attainable.

Ward "A" was opened with 30 beds; Ward "B"—the Children's Ward—with 24 beds; Ward "D" with 16 beds; while Ward "C" had one half made into the dining room and the other half into the entertainment room.

From the date of the opening to 31st December 118 cases were admitted, and there were 29 deaths in that period.

In most of the cases admitted the disease was far advanced, death occurring in one case within 24 hours after admission, several within a week of admission, and most of the deaths occurred within a month after admission.

Thirty-five cases were discharged, most of them much improved in health and fit for light household duties, while a few left at their own request. 54 cases remained under treatment on 31st December.

Some of the worst cases after a few weeks' residence in hospital showed remarkable improvement in health, gaining weight and strength, and after being bedridden for many weeks were able to be up and take walking exercise, while their coughs were much less frequent and sputum diminished.

Six suitable cases were made to sleep out in one of the shelters, and all have much improved, and would not sleep in the wards again.

During the summer some pleasant afternoons were spent on the lawn, various harmless competitions being provided for the patients and staff, at which those patients who were unable to compete were interested spectators on their chairs or couches.

In the winter various concerts and plays, in which some of the patients and staff take part, are held in the entertainment room, and are much looked forward to by all.

These and the competitions do much to make the lot of the patients a little happier, and for the staff help to break the monotony of the depressing surroundings.

So that the children's education is not neglected, a teacher comes two afternoons a week.

## TUBERCULOSIS AND THE MILK SUPPLY.

(REPORT BY MR. JOHN MALCOLM, F.R.C.V.S., Veterinary Superintendent.)

I have pleasure in submitting herewith a short report on the work done last year in connection with the inspection of cows and cowsheds in the city, and the efforts to minimise the degree of Tubercle infection in the Birmingham milk supply.

## INSPECTION OF COWS AND COWSHEDS IN THE CITY.

During the year 1915 the inspection of cows and cowsheds has been systematically carried out by the Veterinary staff as heretofore, though fewer visits have been made owing to war reduction of staff. Cow-keepers, dairy farms, sheds and cows in the city at present are as follows :—

|              |             |        |       |
|--------------|-------------|--------|-------|
| Cow-keepers. | Dairy Farms | Sheds. | Cows  |
| 149          | 188         | 352    | 2,128 |

During the year nine dairy farmers have discontinued keeping cows, and a former one has resumed.

2,218 visits of inspection have been paid to cowsheds in the city area. At each visit the Veterinary Inspector examined both cows and cowsheds.

Forty-six cows were found affected with catarrhal mastitis or inflammation of the udder, one with cow-pox, one with Johne's disease, and four with emaciation. The milk from these cows was prohibited from sale, temporarily or permanently, according to the case.

The condition of the cowsheds and the cleanliness of the cows inspected during the year was satisfactory considering the scarcity of labour which has existed.

## TUBERCULOSIS AND THE MILK SUPPLY.

The effort to reduce the amount of Tubercle infection in the milk sold in the city has been continued on the lines of previous years, viz. :—

- (a) The detection of infected milk ;
- (b) The detection of cows with Tuberculosis of the Udder or others giving infected milk ;
- (c) The eradication of Tuberculosis from dairy herds supplying milk to the city.

## INFECTED MILKS.

Eighty-nine samples of mixed milk have been taken during the year. Of these fourteen were taken at the farms, seventy-one at the railway stations, and four at one of the Hospitals. Seven were found to contain Tubercle infection.

Forty-one samples were taken from individual cows at the farms; six of these were found to contain Tubercle infection. The milk from the infected cows was at once prohibited from sale, and five of the cows were subsequently slaughtered. (In one case the farmer at first declined to have the cow slaughtered, and subsequently was prosecuted and fined for failing to keep her apart from his dairy herd.) The sixth cow was purchased for Professor Leith to provide him with Tubercle-infected milk for his research work.

## ERADICATION OF TUBERCULOSIS FROM DAIRY HERDS.

During the year twenty-six herds were dealt with, and twenty-one of these, numbering 628 cows, were free at the end of the year, four herds, numbering 125 cows, were being freed, and one herd, numbering 44 cows, was in suspense.

[illegible]



## COWS TESTED.

The testing of the above herds has been carried out half-yearly. The results of the testing again show that breeding dairy herds into which only young heifers are introduced can be maintained in a tubercle-free state much more easily and economically than herds which are kept up by the purchasing of mature milking cows, though Birmingham dairy farmers systematically buy the best cows they can obtain.

From the tabulated list below it will be seen that 1,487 cows were tested during the year, of which 1,288 passed and 199 failed to pass.

| No. | Cows Tested. |     |     |     |       | Passed. | Failed<br>(Reacters and Doubtful). |     |
|-----|--------------|-----|-----|-----|-------|---------|------------------------------------|-----|
| 1   | ...          | ... | ... | ... | 49    | ...     | 46                                 | 3   |
| 2   | ...          | ... | ... | ... | 5     | ...     | 4                                  | 1   |
| 3   | ...          | ... | ... | ... | 40    | ...     | 40                                 | —   |
| 4   | ...          | ... | ... | ... | 19    | ...     | 18                                 | 1   |
| 5   | ...          | ... | ... | ... | 71    | ...     | 65                                 | 6   |
| 6   | ...          | ... | ... | ... | 145   | ...     | 121                                | 24  |
| 7   | ...          | ... | ... | ... | 74    | ...     | 57                                 | 17  |
| 8   | ...          | ... | ... | ... | 35    | ...     | 24                                 | 11  |
| 9   | ...          | ... | ... | ... | 122   | ...     | 113                                | 9   |
| 10  | ...          | ... | ... | ... | 45    | ...     | 41                                 | 4   |
| 11  | ...          | ... | ... | ... | 102   | ...     | 102                                | —   |
| 12  | ...          | ... | ... | ... | 58    | ...     | 32                                 | 26  |
| 13  | ...          | ... | ... | ... | 19    | ...     | 17                                 | 2   |
| 14  | ...          | ... | ... | ... | 189   | ...     | 185                                | 4   |
| 15  | ...          | ... | ... | ... | 63    | ...     | 60                                 | 3   |
| 16  | ...          | ... | ... | ... | 22    | ...     | 18                                 | 4   |
| 17  | ...          | ... | ... | ... | 49    | ...     | 41                                 | 8   |
| 18  | ...          | ... | ... | ... | 62    | ...     | 58                                 | 4   |
| 19  | ...          | ... | ... | ... | 80    | ...     | 58                                 | 22  |
| 20  | ...          | ... | ... | ... | 44    | ...     | 40                                 | 4   |
| 21  | ...          | ... | ... | ... | 87    | ...     | 81                                 | 6   |
| 22  | ...          | ... | ... | ... | 10    | ...     | 8                                  | 2   |
| 23  | ...          | ... | ... | ... | 52    | ...     | 30                                 | 22  |
| 24  | ...          | ... | ... | ... | 1     | ...     | —                                  | 1   |
| 25  | ...          | ... | ... | ... | 44    | ...     | 29                                 | 15  |
|     |              |     |     |     | 1,487 |         | 1,288                              | 199 |

The cows which failed were again in most cases cows which were purchased subject to passing the test, and having failed were returned to the vendor. The doubtful reactors already in the herd were isolated and re-tested a month subsequently; about 50 per cent. of these eventually passed.

The newly purchased and other cows tested for the first time last year numbered 386. Of these 70 = 18·13 per cent. reacted, and 18 = 4·66 per cent. were doubtful; *i.e.*, 88 = 22·79 per cent. failed to pass the test, as compared with 26·1 per cent. last year.

## COST INCURRED BY TESTING HERDS. {

The testing of the herds was carried out partly by the Corporation Veterinary Officers and partly by the dairymen's own Veterinary Surgeons, acting on behalf of the Corporation. The herds dealt with are visited periodically to see that the reactors are isolated from the free, that the cows in the free herds are being properly looked after, and the hygienic regulations are complied with.

The extra cost of this work during the year was £115 14s. 7d., of which £34 was for tuberculin and £81 14s. 7d. for Veterinary fees and expenses. In 1914 the extra cost was £168 3s. 7d.

## SYPHILIS.

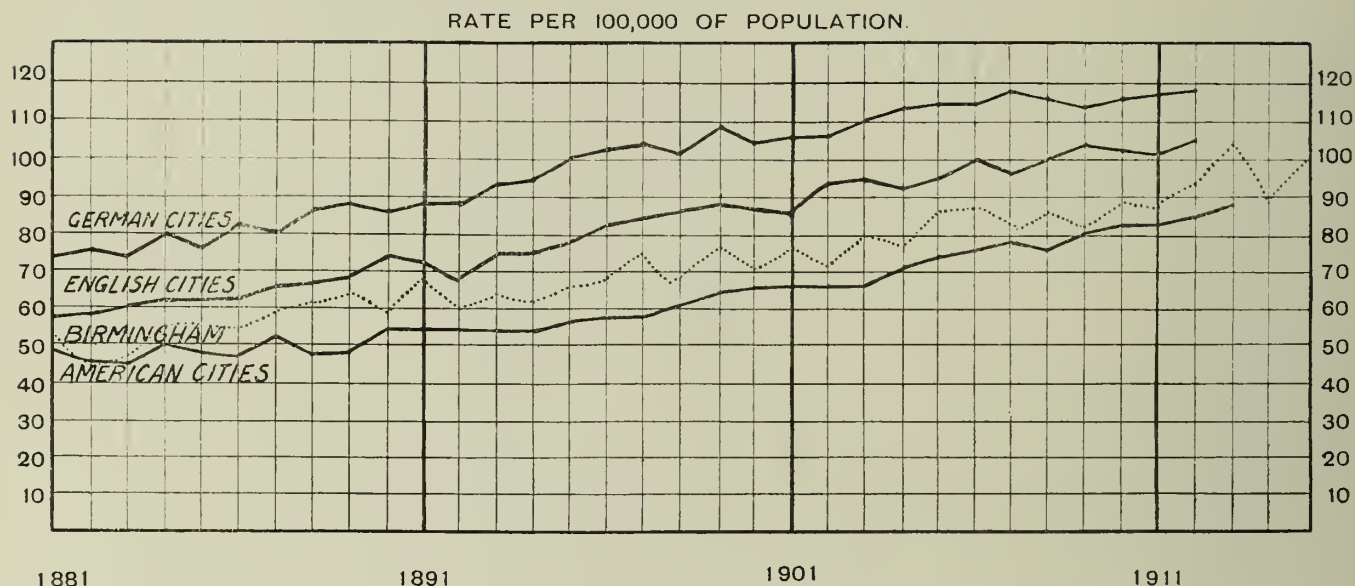
There were 39 deaths recorded as directly due to this disease, against 44 in 1914, and 45 in 1913.

In October, 1914, the Public Health Committee made provision for the diagnosis of cases of this disease, and for this purpose a letter was sent to every medical practitioner in the city asking him either to send a sample of the blood of any patient suspected to be suffering from Syphilis for examination, or to send the patient to the private consulting rooms of Dr. Assinder, No. 22 Broad Street, who would himself take a sample of blood and forward the result of the examination to the medical practitioner. In the last three months of 1914 39 cases were examined by Dr. Assinder. During 1915 85 cases were examined, 47 of which were positive, 34 negative, and 4 of doubtful result.

## CANCER.

For some years there has existed a controversy as to whether Cancer is increasing. The diagram below indicates pretty clearly that the rate of increase in Birmingham follows closely that of other countries.

## COMPARATIVE CANCER MORTALITY, 1881—1915.



The world's statistics for Cancer have recently been reviewed by Dr. Hoffman, of Newark, U.S.A., in "The mortality from Cancer throughout the world." The conclusions which he desires to emphasize are:—

- (1) That the menace of Cancer throughout the civilized world is much more serious than has generally been assumed to be the case.
- (2) That the evidence of Cancer increase throughout the world is an incontrovertible statistical fact and absolutely conclusive.
- (3) That the mortality from Cancer is increasing at a more or less alarming rate throughout the entire civilized world, and that this increase implies most serious consequences, present and future, to the populations concerned.
- (4) That practically all forms of Cancer are on the increase.
- (5) With regard to heredity and family history some additional observations re-emphasize earlier conclusions that the available evidence in this respect is in the negative.
- (6) The available evidence as regards a possible parasitic origin of Cancer is held to be inconclusive.

Taking these conclusions and applying them to the Birmingham figures:—

- (1) As regards the menace of Cancer, the disease caused 885 deaths out of a total of 12,816, *i.e.*, one in 14.

Of deaths over 25 years of age, Cancer caused one death in every nine in Birmingham in 1915.

Of persons over 25 years of age, *i.e.*, at the commencement of the valuable part of life, Cancer caused last year more deaths than any other disease except Tuberculosis, Heart Disease and Bronchitis.

- (2) The chart shows the position of Birmingham as regards increase. Last year there were 221 more deaths than in 1901, or a mortality rate of 1.00, as compared with .73 per 1,000.

- (3) The rate of increase means that the present deaths would double themselves in 60 years if the population were to remain stationary.

The site of the disease, together with the age and sex of the sufferer, is shown in the table on the opposite page. In order to increase the value of the figures in a relatively small population, the deaths from Cancer for the four years, 1912, 1913, 1914, and 1915, are given.



DEATHS FROM CANCER IN 1912—1915 INCLUSIVE.

| Ages.    | Mouth. |          |        | Stomach,<br>Liver, &c. |          |        | Peritoneum,<br>Intestine, etc. |          |        | Female Organs of<br>Reproduction. |          |        | Breast. |          |        | Skin.  |          |        | Other Organs. |          |        | Total. |          |        |
|----------|--------|----------|--------|------------------------|----------|--------|--------------------------------|----------|--------|-----------------------------------|----------|--------|---------|----------|--------|--------|----------|--------|---------------|----------|--------|--------|----------|--------|
|          | Males. | Females. | Total. | Males.                 | Females. | Total. | Males.                         | Females. | Total. | Males.                            | Females. | Total. | Males.  | Females. | Total. | Males. | Females. | Total. | Males.        | Females. | Total. | Males. | Females. | Total. |
| Under 1  | —      | —        | —      | —                      | —        | —      | —                              | —        | —      | —                                 | —        | —      | —       | —        | —      | —      | —        | —      | 2             | —        | 2      | 2      | —        | 2      |
| 1 -      | 1      | 1        | 2      | —                      | 1        | 1      | —                              | —        | —      | —                                 | —        | —      | —       | —        | —      | —      | —        | —      | 3             | 4        | 7      | 4      | 6        | 10     |
| 5 -      | —      | —        | —      | —                      | —        | —      | —                              | —        | —      | —                                 | —        | —      | —       | —        | —      | —      | —        | —      | 1             | 2        | 3      | 1      | 2        | 3      |
| 10 -     | —      | 1        | 1      | —                      | —        | —      | —                              | —        | —      | —                                 | —        | —      | —       | —        | —      | —      | —        | —      | 2             | 3        | 5      | 2      | 4        | 6      |
| 15 -     | —      | —        | —      | —                      | 1        | 1      | —                              | —        | —      | —                                 | —        | —      | —       | —        | —      | —      | —        | —      | 4             | 3        | 7      | 4      | 4        | 8      |
| 20 -     | —      | —        | —      | 1                      | 2        | 3      | —                              | —        | —      | —                                 | 3        | 3      | —       | —        | —      | —      | —        | —      | 8             | —        | 8      | 12     | 5        | 17     |
| 25 -     | 2      | 1        | 3      | 7                      | 5        | 12     | 10                             | 3        | 13     | —                                 | 10       | 10     | —       | 7        | 7      | —      | —        | —      | 15            | 8        | 23     | 34     | 34       | 68     |
| 35 -     | 14     | 1        | 15     | 36                     | 37       | 73     | 17                             | 26       | 43     | —                                 | 73       | 73     | —       | 67       | 67     | 3      | 1        | 4      | 42            | 20       | 62     | 112    | 225      | 337    |
| 45 -     | 63     | 4        | 67     | 140                    | 86       | 226    | 57                             | 75       | 132    | —                                 | 119      | 119    | 1       | 82       | 83     | 2      | 1        | 3      | 81            | 53       | 134    | 344    | 420      | 764    |
| 55 -     | 59     | 8        | 67     | 192                    | 148      | 340    | 107                            | 93       | 200    | —                                 | 99       | 99     | —       | 86       | 86     | 5      | 2        | 7      | 100           | 47       | 147    | 463    | 483      | 946    |
| 65 -     | 47     | 4        | 51     | 135                    | 171      | 306    | 103                            | 101      | 204    | —                                 | 70       | 70     | —       | 71       | 71     | 3      | 3        | 6      | 88            | 54       | 142    | 376    | 474      | 850    |
| 75 -     | 14     | 2        | 16     | 47                     | 48       | 95     | 27                             | 49       | 76     | —                                 | 17       | 17     | —       | 39       | 39     | 2      | 7        | 9      | 28            | 23       | 51     | 118    | 185      | 303    |
| 85 -     | 2      | —        | 2      | 2                      | 8        | 10     | 2                              | 4        | 6      | —                                 | —        | —      | —       | 5        | 5      | —      | 1        | 1      | 2             | 2        | 4      | 8      | 20       | 28     |
| All Ages | 202    | 22       | 224    | 560                    | 504      | 1064   | 326                            | 354      | 680    | —                                 | 391      | 391    | 1       | 357      | 358    | 15     | 15       | 30     | 376           | 219      | 595    | 1480   | 1862     | 3342   |

What can be done to prevent the disease? It is certain that our knowledge is quite insufficient to enable any reliable suggestions to be made in this direction. Much has been discovered by accurate data. It, therefore, behoves everyone dealing with Cancer cases to record the facts with the greatest accuracy for statistical purposes.

There is, however, a very useful work which can be performed in educating the public to know how Cancer begins, in order that by early operative interference the disease may be removed by the surgeon, and thus life saved.

By leaflets given away at hospitals, at Infant Welfare Centres, and other such places, a good deal of useful information may be diffused, so that the disease may be recognised at a stage when something can be done.

#### ACUTE ANTERIOR POLIOMYELITIS.

Eight cases of this disease were reported during 1915, with one death, as compared with 16 cases and 1 death in 1914. Of the seven cases which recovered, five made complete recovery, while there was some paralysis left in two cases. All the patients were young children of five years and under, and in no case could the source of the disease be traced.

The cases are tabulated as follows :—

| Date of Notification. | Patient. | Sex. | Age.    | Result.                        |
|-----------------------|----------|------|---------|--------------------------------|
| Jan. 6 ...            | D. A.    | M.   | 4       | Recovery.                      |
| Jan. 18 ...           | M. M.    | F.   | 8 mths. | Died.                          |
| Mar. 13 ...           | W. H.    | M.   | 1       | Recovery.                      |
| April 29 ...          | J. H.    | M.   | 5       | "                              |
| Sept. 23 ...          | F. W.    | F.   | 1       | "                              |
| Nov. 16 ...           | L. W.    | M.   | 1       | Right thigh still paralysed.   |
| Dec. 14 ...           | F. H.    | M.   | 2       | Recovery.                      |
| Dec. 31 ...           | T. C.    | M.   | 1       | Left shoulder still paralysed. |

#### CEREBRO-SPINAL FEVER.

There has been a large increase in the number of cases of this disease reported during 1915, 52 cases of Cerebro-Spinal Fever having occurred, with 41 deaths, giving a mortality of 79%. The figures for 1914 were 10 cases, with 6 deaths. The number of cases reported in the various months of the year is shown thus :—

|                 |           |                  |          |
|-----------------|-----------|------------------|----------|
| January... ..   | No cases. | July ... ..      | 6 cases. |
| February ... .. | No "      | August ... ..    | 6 "      |
| March ... ..    | 10 "      | September ... .. | 2 "      |
| April ... ..    | 14 "      | October ... ..   | 3 "      |
| May ... ..      | 3 "       | November ... ..  | 1 "      |
| June ... ..     | 5 "       | December ... ..  | 2 "      |

The cases of Cerebro-Spinal Fever were fairly evenly distributed throughout the area of the city; no particular district was more affected than others, and in no instance did a second case occur in the same house. These facts tend to bear out the theory which is now generally accepted that Cerebro-Spinal Fever, although known to be infective, is not usually contracted from direct contact with a person suffering from the disease itself, but is more generally spread by persons not actually suffering from the disease, but acting as "carriers."

The number of the patients attacked, with the number of deaths in each age period, is as follows :—

|              |     |     |                          |
|--------------|-----|-----|--------------------------|
| Under 1 year | ... | ... | 12 cases with 11 deaths. |
| 1—5 years    | ... | ... | 15 " " 12 "              |
| 5—10 "       | ... | ... | 5 " " 5 "                |
| 10—15 "      | ... | ... | 5 " " 1 "                |
| 15—25 "      | ... | ... | 3 " " 2 "                |
| 25—35 "      | ... | ... | 9 " " 7 "                |
| Over 35 "    | ... | ... | 3 " " 3 "                |

The patients were treated as follows :—

- 4 cases at General Hospital, with 2 recoveries and 2 deaths.
- 9 cases at Queen's Hospital, with 3 recoveries and 6 deaths.
- 18 cases at Children's Hospital, with 3 recoveries and 15 deaths.
- 21 cases at Home, with 3 recoveries and 18 deaths.

The average duration of the illness in the fatal cases was 18·5 days; the actual length of illness recorded being as follows :—

Three patients died within 48 hours, seven in 3 to 4 days, four in 5 to 6 days, three in 7 to 8 days, eight in 9 to 14 days, five in 15 to 21 days, two in 22 to 28 days, one in 29 to 35 days, two in 36 to 42 days, two in 43 to 49 days, and one each in 50th, 52nd, 61st and 67th days. In eleven of the cases of Cerebro-Spinal Fever reported a history of contact with soldiers was obtained, but in only five of these cases was there reason to suspect that the disease was due to this contact. In no other case could the source of the disease be traced. Particulars of these five cases are given below :—

A. B., aged 13 months. Onset of disease April 6th. Died April 18th. The child's father returned home on March 23rd, having been discharged from the Army. Four cases of Cerebro-Spinal Fever had been reported during March at the camp where he was stationed, but before returning to Birmingham a swab had been taken from his nasopharynx and reported free from infection.

A. W., aged 2 years and 8 months. Onset of disease April 22nd. Died June 29th. The father, a soldier in the Army Service Corps, returned home on April 17th from a Military Hospital, where there were several cases of Cerebro-Spinal Fever under treatment. A swab taken from this man's throat on May 3rd showed him to be a "carrier."

J. M., aged 1 year and 11 months. Onset of disease April 25th. Died June 25th. The father of the patient, a soldier, returned home on April 24th, and slept with the child that night. The father had returned to duty before the disease was recognised, but swabs taken from his throat on June 9th and July 2nd and 16th all showed the presence of the germ, and that the man was a "carrier."

W. A., aged 32. Onset of disease July 6th. Recovered. This patient had been in contact with a soldier of the Duke of Cornwall's Light Infantry, who had been in a Military Hospital suffering from Cerebro-Spinal Fever during April and May. A swab taken from this soldier on July 24th failed to show the presence of the germ.

F. F., aged 4. Onset of disease November 1st. Died Nov. 30th. This child is said to have travelled from Birmingham to Liverpool a fortnight before the onset of the disease in a railway carriage in the company of four soldiers who were returning home on leave from the Front.

## BRONCHITIS AND PNEUMONIA.

The deaths from these two diseases numbered 2,359, that is to say, one of every 5·4 deaths was due to one or other of them.

Statistics show how much more fatal this disease is in the poorer areas of the city than in the better class areas., viz., roughly four times as fatal. They also show that the disease is one of young infants in the case of both bronchitis and pneumonia and in the case of bronchitis of elderly people.

### DEATH-RATES FROM BRONCHITIS AND PNEUMONIA.

| BRONCHITIS. |             |      |                    |      | PNEUMONIA.  |      |                    |      |         |
|-------------|-------------|------|--------------------|------|-------------|------|--------------------|------|---------|
|             | Birmingham. |      | England and Wales. |      | Birmingham. |      | England and Wales. |      |         |
| 1901        | ...         | 1·80 |                    | 1·37 |             | 1·55 |                    | 1·15 |         |
| 1902        | ...         | 1·64 | Average            | 1·32 | Average     | 1·46 | Average            | 1·41 | Average |
| 1903        | ...         | 1·46 |                    | 1·11 |             | 1·32 |                    | 1·22 |         |
| 1904        | ...         | 1·76 | 1·62               | 1·25 | 1·24        | 1·49 | 1·44               | 1·28 | 1·27    |
| 1905        | ...         | 1·43 |                    | 1·14 |             | 1·37 |                    | 1·30 |         |
| 1906        | ...         | 1·38 | Average            | 1·04 | Average     | 1·32 | Average            | 1·22 | Average |
| 1907        | ...         | 1·49 |                    | 1·22 |             | 1·47 |                    | 1·35 |         |
| 1908        | ...         | 1·47 |                    | 1·10 |             | 1·22 |                    | 1·19 |         |
| 1909        | ...         | 1·47 |                    | 1·15 |             | 1·36 |                    | 1·30 |         |
| 1910        | ...         | 1·24 |                    | 0·96 |             | 1·15 |                    | 1·11 |         |
| 1911        | ...         | 1·25 |                    | 1·00 |             | 1·16 |                    | 1·04 |         |
| 1912        | ...         | 1·26 |                    | 1·08 |             | 1·20 |                    | 1·02 |         |
| 1913        | ...         | 1·20 |                    | 1·06 |             | 1·13 |                    | 1·02 |         |
| 1914        | ...         | 1·26 |                    | 1·08 |             | 1·24 |                    | 1·08 |         |
| 1915        | ...         | 1·37 |                    | —    |             | 1·28 |                    | —    |         |



## AGES AT DEATH.

|                        |     |     |     |     |     |     | Bronchitis. | Pneumonia. |
|------------------------|-----|-----|-----|-----|-----|-----|-------------|------------|
| Under 5 years ...      | ... | ... | ... | ... | ... | ... | 267         | 578        |
| Between 5 and 15 years | ... | ... | ... | ... | ... | ... | 11          | 46         |
| "    15 and 25         | "   | ... | ... | ... | ... | ... | 5           | 28         |
| "    25 and 35         | "   | ... | ... | ... | ... | ... | 13          | 61         |
| "    35 and 45         | "   | ... | ... | ... | ... | ... | 35          | 84         |
| "    45 and 55         | "   | ... | ... | ... | ... | ... | 75          | 102        |
| "    55 and 65         | "   | ... | ... | ... | ... | ... | 202         | 97         |
| "    65 and 75         | "   | ... | ... | ... | ... | ... | 337         | 87         |
| "    75 and 85         | "   | ... | ... | ... | ... | ... | 225         | 49         |
| 85 years and over      | ... | ... | ... | ... | ... | ... | 49          | 8          |

## PUERPERAL FEVER.

The principal figures relating to this disease are as follows:—

| Year. |     | Cases<br>Notified. | Deaths. | Per 1,000 Births.<br>Cases. | Deaths. | Removed to<br>Women's<br>Hospital. | Treated at<br>home or<br>elsewhere. |
|-------|-----|--------------------|---------|-----------------------------|---------|------------------------------------|-------------------------------------|
| 1913  | ... | 112                | 44      | 4.7                         | 1.85    | 60                                 | 52                                  |
| 1914  | ... | 149                | 33      | 6.4                         | 1.42    | 114                                | 35                                  |
| 1915  | ... | 161                | 36      | 7.6                         | 1.65    | 137                                | 24                                  |

|  |     |     |     |     |        | Cases of<br>Puerperal<br>Fever. | Deaths from<br>Puerperal<br>Fever. |
|--|-----|-----|-----|-----|--------|---------------------------------|------------------------------------|
| Total live births...                           | ... | ... | ... | ... | 21,187 | 83                              | 20                                 |
| Still births reported by midwives              | ... | ... | ... | ... | 281    | 5                               | —                                  |
| Still births attended by medical practitioners | ... | ... | ... | ... | ?      | 7                               | 3                                  |
| Miscarriages and abortions                     | ... | ... | ... | ... | ?      | 66                              | 13                                 |

Of the notified cases, 161 in number, 137 were removed to the Puerperal Fever Ward at the Women's Hospital. The average stay in hospital was  $28\frac{1}{2}$  days, the total days of the patients admitted being 3,905. The arrangement with the hospital is that 14 beds will be continuously kept for these cases at a charge of £72 per bed per annum, or a total of £1,008. Each case cost, therefore, £7 7s. Twelve cases were nursed at home, seven occurred at the Workhouse Infirmary, five at the Maternity Hospital, and one at the General Hospital.

Of the 161 patients notified as suffering from Puerperal Fever 44 were attended by certified midwives, with 5 deaths, or 11 per cent.; 16 were attended by certified midwife and doctor at the time of confinement, with 6 deaths, or 37 per cent.; 36 were attended by doctor and uncertified nurse or other person, with 5 deaths, or 14 per cent.; 65 were attended by doctor only (abortion, etc.), with 20 deaths, or 31 per cent.

Of the 161 Puerperal Fever cases 66 followed after abortion or miscarriage, as follows:—35 cases under the third month of gestation; 21 cases at the third month of gestation; 6 cases at the fourth month of gestation; 3 cases at the 5th month of gestation; 1 case at the sixth month of gestation; 3 cases at the 7th month of gestation; 2 cases at the eighth month of gestation.

## MIDWIVES ACT.

The number of midwives who gave notice of their intention to practise in Birmingham during 1915 was 229. Of these 15 reside outside the city.

The following table gives particulars relating to midwives practising in Birmingham, and sets out their qualifications prior to entry on the Midwives' Roll. It will be seen that about 30 per cent. are certificated midwives. This shows a considerable increase during the last few years.



| Qualification of Midwife.                                      | Bonafides. | Central<br>Midwives<br>Board. | London<br>Obst'rical<br>Society. | Queen<br>Char-<br>lotte's<br>Hospital. | Rotunda<br>Hospital. | Salvation<br>Army<br>Maternity<br>Hospital. | Total. |
|--|------------|-------------------------------|----------------------------------|--|----------------------|---|--------|
| No. notifying their intention to practise, 1915—               |            |                               |                                  |  |                      |   |        |
| Resident in Birmingham ...                                     | 144        | 55                            | 11                               | 2                                      | 1                    | 1   | 214    |
| Resident outside ...   | 12         | 3                             | —                                | —                                      | —                    | —   | 15     |
| No. removed from Birmingham                                    | 1          | 4                             | —                                | —                                      | —                    | —   | 5      |
| No. who have given up practice (old age or ill-health) ...     | 7          | 1                             | —                                | —                                      | —                    | —   | 8      |
| No. who have died ...  | 4          | —                             | —                                | —                                      | —                    | —   | 4      |
| No. removed from the Roll ...                                  | —          | —                             | —                                | —                                      | —                    | —   | —      |
| No. temporarily employed ...                                   | —          | 2                             | —                                | —                                      | —                    | —   | 2      |
| No. of births attended by Midwives under the heading given ... | 9,950      | 2,542                         | 1,142                            | 10                                     | 80                   | —   | 13,724 |

The number of midwives suspended was 38, the reason being Puerperal Fever in 31 instances, Scarlet Fever in three instances, Pemphigus in two, Erysipelas in one, and Diphtheria in one.

#### LEGAL PROCEEDINGS UNDER THE MIDWIVES ACT.

*April 23rd.* A woman was prosecuted for using a title implying that she was a midwife, and for attending confinements other than under the direction of a qualified medical practitioner. Fined £5 and costs 17s. 6d.

*April 23rd.*—Another woman for the same offence was fined £5 and costs 15s.

*October 8th.*—Another woman for the same offence as above was fined £5 and costs 10s. 6d.

*December 22nd.*—Another woman, who was attending confinements other than under the direction of a qualified medical practitioner, was fined £2 and costs 22s. 6d.

Two certified midwives were asked to appear before the Public Health and Housing Committee (being the Local Supervising Authority under the Midwives Act). These were referred to the Central Midwives Board as follows:—

*Midwife No. 1,285.*—Charged with neglect to carry out disinfection, etc., after attending an infectious disease. The Central Midwives Board found the charges proved, and deferred sentence for six months. At the end of this time her conduct, having been satisfactory, the Board decided to take no further action.

*Midwife No. 41,223.*—Charged with inability to carry out the rules and instructions. The Central Midwives Board, having seen this woman and found that she had improved herself since the charges were made out, warned her and deferred sentence for six months. Subsequently they decided to take no further action.

#### OPHTHALMIA NEONATORUM.

There were registered in Birmingham during 1915 21,187 births. In 324 of the cases Ophthalmia Neonatorum was notified by the doctor or midwife in attendance, *i.e.*, 1 in 65 births. In 1914 there were 395 cases notified, or 1 in 59 births. In the vast majority of these cases the disease was a trivial conjunctivitis, often somewhat intractable as regards treatment.

In both 1914 and 1915 there were no children left blind in both eyes as a result of this disease. During 1915 the death of one weakly premature baby was attributed to Ophthalmia.

The following is a list of the cases in which more or less permanent damage resulted :—

| Register No. | Position of Child in Family. | Day of Disease Treatment Commenced. | Birth attended by.     | Eyes treated by               | Condition of Eyes at completion of treatment.   |
|--------------|------------------------------|-------------------------------------|------------------------|-------------------------------|---|
| 64           | 7th                          | 1st                                 | Midwife ...            | Eye Hospital ...              | Right eye, partly damaged by opacity ; left, normal.  |
| 157          | 2nd                          | 2nd                                 | Midwife and Doctor ... | Eye Hospital ... (In-patient) | Right eye, normal ; left eye partly covered by opacity. (Previous child blind in one eye.)                        |
| 160          | 2nd                          | 5th                                 | Doctor ...             | Doctor and Eye Hospital ...   | Right eye, normal ; left eye, completely destroyed ... ..   |
| 194          | 3rd                          | 4th                                 | Midwife ...            | Eye Hospital ...              | Right eye, normal ; left eye, very defective sight.   |
| 311          | 1st                          | ?                                   | Doctor in Scotland...  | Eye Hospital ...              | Right eye, normal ; left eye, very defective sight. Child came to Birmingham from Scotland one month after birth. |

## CONTAGIOUS DISEASES OF ANIMALS.

(REPORT BY MR. MALCOLM, F.R.C.V.S., VETERINARY SUPERINTENDENT.)

I have pleasure in submitting a report on the occurrence of some of the chief scheduled contagious diseases in animals here during 1915.

### GLANDERS AND FARCY.

There has again been no case of this disease in Birmingham during the year. It is some satisfaction to be able to record its continued decline throughout the country. Last year there were fifty outbreaks, in which 95 animals were attacked, against ninety-seven outbreaks, with 286 animals attacked, in 1914, and 789 outbreaks, with 2,433 animals attacked, in 1908—the first year under the present Glanders Order. Had the Order been applied as uniformly and as effectively in the country generally as in Birmingham and many other districts, the disease would have been eradicated some years ago. The delay in eradication can be said to lie chiefly with London and surrounding districts.

### ANTHRAX.

Ten cases of suspected anthrax in animals which died suddenly were reported last year. After examination, only two (both in pigs) proved to be anthrax. In these two cases the cause was ascribed to the use of infected imported meals for food ; but this was not positively proved. Altogether, there were 648 certified cases in the country. Seeing that here there were only two cases this year, and one case in 1914, this district on the whole has been fortunate as regards the incidence of this fatal disease.

### FOOT AND MOUTH DISEASE.

Two animals with mouth-sores were submitted by a local Veterinary Surgeon as suspicious of being affected with Foot and Mouth Disease. A careful examination proved they were not cases, and it was not deemed necessary to take any further action respecting them.

Birmingham has again been fortunate, seeing that in the country there were 56 outbreaks of Foot and Mouth Disease, in which 557 cattle, 140 pigs, and 5 sheep were affected ; besides this there were 1,430 animals slaughtered to prevent the spread of the disease.

## RABIES.

Fortunately the country continues free from this disease. Three cases of vicious dogs were submitted here, but in none was there any symptom really suspicious of rabies.

But for the existing Rabies and Importation of Dogs Order, with its quarantine regulations, the result would probably have been very different. The Chief Veterinary Officer of the Board of Agriculture reports that a dog which went from England to Nigeria and was then brought back to England developed symptoms suspicious of Rabies after being in quarantine thirty-four days, and died two days thereafter. Subsequent inoculation experiments proved the case to have been one of Rabies. This case again proves the inestimable debt dog owners and the public generally owe to the Board of Agriculture for the benefits conferred by their Rabies regulations.

## SWINE FEVER.

During the year 204 cases of sick or dead pigs have been submitted to me for inspection. In addition 13 cases have been dealt with by one of the whole-time Veterinary Inspectors of the Board of Agriculture, who certified 11 of them to be Swine Fever cases and the others not. Of the 204 cases submitted to me, 47 presented symptoms more or less suspicious of Swine Fever, and of these, on further examination, 26 ultimately proved to be cases.

During the year the system of serum immunisation against Swine Fever has been in force, and apparently this is meeting with some measure of success.

## PARASITIC MANGE IN HORSES.

During the year there were 38 outbreaks of Mange, affecting 111 horses. Eight of these were slaughtered, in these cases the horses being of little value and the disease so advanced as to make it not economic to treat them. The other 103 made good recoveries. The Mange Order is a most valuable instrument. By its powers much equine suffering is prevented, and the horse-owners are saved the financial loss that would otherwise arise.

## SHEEP SCAB.

No case or suspected case of this disease has been reported in the city during the year.

## TUBERCULOSIS.

As reported last year, the Tuberculosis Order for dealing with Bovine Tuberculosis was suspended during the period of the War. It is, therefore, still in suspension. Only such cases as come under the Birmingham Dairy Regulations can now be dealt with.

## DISINFECTION.

This was carried out very much on the lines of previous years. The Public Health Department were able to lend two full-sized Washington Lyon Disinfectors for use at the military hospitals, but this in no way inconvenienced the work. The number of articles disinfected was as follows:—beds, 5,716; mattresses, 3,625; counterpanes, 3,965; blankets, 5,163; sheets, 5,462; bolsters, 4,037; pillows, 10,055; garments, 17,182; boots, 1,468; carpets, 2,710; and sundries, 14,852.

## CITY HOSPITALS.

The following statement shows the number of patients\* treated last year in the City hospitals:—

|                                      |     |     | Scarlet Fever. |     | Diphtheria. |
|--------------------------------------|-----|-----|----------------|-----|-------------|
| Under treatment at beginning of year | ... | ... | 475            | ... | 127         |
| Admitted during the year             | ... | ... | 2,326          | ... | 863         |
| Discharged during the year           | ... | ... | 2,422          | ... | 818         |
| Died during the year                 | ... | ... | 68             | ... | 96          |
| Remaining at end of year             | ... | ... | 311            | ... | 76          |

\*In a certain number of cases the diagnosis was revised in hospital.



REPORT ON LITTLE BROMWICH HOSPITAL.  
(BY DR. JAMES O'SHEA, ACTING MEDICAL SUPERINTENDENT.)

I have pleasure in submitting to you the report on the working of this hospital for the year ending December 31st, 1915.

STATISTICS OF SCARLET FEVER CASES.

|   |     |     |     |     |       |
|---|-----|-----|-----|-----|-------|
| Number remaining in hospital, December 31st, 1914 | ... | ... | ... | ... | 305   |
| Number admitted during the year 1915              | ... | ... | ... | ... | 1,834 |
| Total under treatment during the year             |     |     |     |     | 2,139 |
| Discharged during the year 1915                   | ... | ... | ... | ... | 1,820 |
| Died during the year                              | ... | ... | ... | ... | 41    |
| Remaining in hospital December 31st, 1915         | ... | ... | ... | ... | 278   |
|   |     |     |     |     | 2,139 |

The average duration of stay in hospital of patients admitted during the year was 50.2 days.

The number of deaths occurring among those admitted as suffering from scarlet fever was 43, giving a case mortality rate of 2.4 per cent., as against 2.6 per cent. for the previous year. Eight of these deaths were of patients who did not have scarlet fever. Of these 2 were cases of diphtheria, one measles and diphtheria, 1 measles, 1 erysipelas, 1 tubercular meningitis, 2 broncho-pneumonia.

If these cases be deducted, the mortality rate becomes 1.9 per cent.

Of the 35 fatal cases remaining 13 were complicated with diphtheria, 5 with measles, 1 with measles and diphtheria, and 1 with chicken-pox, leaving 15 deaths from uncomplicated scarlet fever, or a case mortality of .81 per cent.

Other infectious diseases developed among the patients during their stay in hospital in the following instances :—Diphtheria, 34 ; measles, 39 ; German measles, 4 ; chicken-pox, 34 ; mumps, 6 ; whooping cough, 5 ; erysipelas, 9. A large proportion of these were in their incubation period on admission.

The following complications developed among the patients during their stay in hospital :—

|                       |     |     |     |     |     |             |     |     |     |     |   |
|-----------------------|-----|-----|-----|-----|-----|-------------|-----|-----|-----|-----|---|
| Otitis                | ... | ... | ... | ... | 160 | Impetigo    | ... | ... | ... | ... | 5 |
| Rhinorrhœa            | ... | ... | ... | ... | 337 | Urticaria   | ... | ... | ... | ... | 5 |
| Adenitis              | ... | ... | ... | ... | 295 | Scabies     | ... | ... | ... | ... | 1 |
| Albuminuria           | ... | ... | ... | ... | 252 | Purpura     | ... | ... | ... | ... | 1 |
| Abscess               | ... | ... | ... | ... | 23  | Blepharitis | ... | ... | ... | ... | 2 |
| Nephritis...          | ... | ... | ... | ... | 50  | Quinsy      | ... | ... | ... | ... | 1 |
| Rheumatism            | ... | ... | ... | ... | 33  | Anæmia      | ... | ... | ... | ... | 4 |
| Conjunctivitis        | ... | ... | ... | ... | 73  | Jaundice    | ... | ... | ... | ... | 4 |
| Pneumonia             | ... | ... | ... | ... | 20  | Uræmia      | ... | ... | ... | ... | 1 |
| Bronchitis            | ... | ... | ... | ... | 22  | Toxæmia     | ... | ... | ... | ... | 1 |
| Cardiac complications | ... | ... | ... | ... | 17  | Meningitis  | ... | ... | ... | ... | 1 |
| Vaginal Discharge     | ... | ... | ... | ... | 16  | Pleurisy    | ... | ... | ... | ... | 1 |

Fifty-three patients had secondary attacks of scarlet fever.

A certain number of cases notified as scarlet fever were suffering, on admission, from the following infectious diseases :—

|                        |     |     |     |     |    |                 |     |     |     |     |   |
|------------------------|-----|-----|-----|-----|----|-----------------|-----|-----|-----|-----|---|
| Diphtheria             | ... | ... | ... | ... | 20 | Mumps           | ... | ... | ... | ... | 2 |
| Measles                | ... | ... | ... | ... | 19 | Whooping Cough  | ... | ... | ... | ... | 7 |
| Measles and Diphtheria | ... | ... | ... | ... | 1  | Puerperal Fever | ... | ... | ... | ... | 1 |
| Chicken-pox            | ... | ... | ... | ... | 19 | Erysipelas      | ... | ... | ... | ... | 5 |

Other complications present on admission were :—

|                            |     |     |     |     |     |                        |     |     |     |     |    |
|----------------------------|-----|-----|-----|-----|-----|------------------------|-----|-----|-----|-----|----|
| Otitis                     | ... | ... | ... | ... | 30  | Corneal Opacity        | ... | ... | ... | ... | 1  |
| Rhinorrhœa                 | ... | ... | ... | ... | 142 | Strabismus             | ... | ... | ... | ... | 3  |
| Adenitis                   | ... | ... | ... | ... | 119 | Ophthalmia             | ... | ... | ... | ... | 2  |
| Abscess                    | ... | ... | ... | ... | 2   | Asthma                 | ... | ... | ... | ... | 1  |
| Albuminuria                | ... | ... | ... | ... | 114 | Chorea                 | ... | ... | ... | ... | 2  |
| Nephritis...               | ... | ... | ... | ... | 3   | Convulsions            | ... | ... | ... | ... | 1  |
| Rheumatism                 | ... | ... | ... | ... | 5   | Epilepsy               | ... | ... | ... | ... | 1  |
| Conjunctivitis             | ... | ... | ... | ... | 25  | Infantile Paralysis    | ... | ... | ... | ... | 5  |
| Bronchitis                 | ... | ... | ... | ... | 22  | Meningitis             | ... | ... | ... | ... | 6  |
| Various Cardiac Conditions | ... | ... | ... | ... | 23  | Fractures and Wounds   | ... | ... | ... | ... | 5  |
| Vaginal Discharge          | ... | ... | ... | ... | 1   | Burns and Scalds       | ... | ... | ... | ... | 7  |
| Ringworm                   | ... | ... | ... | ... | 6   | Empyema                | ... | ... | ... | ... | 12 |
| Ichthyosis                 | ... | ... | ... | ... | 1   | Pleurisy               | ... | ... | ... | ... | 1  |
| Impetigo                   | ... | ... | ... | ... | 5   | Mastoiditis            | ... | ... | ... | ... | 2  |
| Eczema                     | ... | ... | ... | ... | 6   | Pulmonary Tuberculosis | ... | ... | ... | ... | 1  |
| Psoriasis                  | ... | ... | ... | ... | 8   | Tubercular Joints      | ... | ... | ... | ... | 3  |
| Scabies                    | ... | ... | ... | ... | 1   | Psoas Abscess          | ... | ... | ... | ... | 1  |
| Blepharitis                | ... | ... | ... | ... | 10  | Rickets                | ... | ... | ... | ... | 15 |
| Corneal Ulcer              | ... | ... | ... | ... | 1   | Arthritis              | ... | ... | ... | ... | 3  |



## CORRECTED DIAGNOSIS.

One hundred and forty-five of the patients admitted as cases of scarlet fever were found not to be suffering from this disease. The disease, if any, from which they were suffering is shown below :—

|                                |    |                                      |   |
|--------------------------------|----|--------------------------------------|---|
| Measles ... ..                 | 21 | Broncho-pneumonia ... ..             | 4 |
| Measles and Diphtheria ... ..  | 2  | Bronchitis ... ..                    | 1 |
| Measles and Tonsillitis ... .. | 1  | Empyema ... ..                       | 1 |
| Diphtheria ... ..              | 3  | Tubercular Meningitis ... ..         | 1 |
| Tonsillitis ... ..             | 11 | Erysipelas ... ..                    | 1 |
| Chicken-pox ... ..             | 8  | Heart Disease and Tonsillitis ... .. | 1 |
| Whooping Cough ... ..          | 1  |                                      |   |

Diphtheria cases were admitted to this hospital from November 1st, 1915.

## STATISTICS OF DIPHTHERIA CASES.

|  |     |
|--|-----|
| Admissions (including 20 cases transferred from Lodge Road) ... .. | 133 |
| Deaths ... ..  | 11  |
| Discharges ... ..  | 51  |

The mortality rate was 8.2 per cent., as compared with 12.9 per cent. in 1914.

The number of laryngeal cases was 20, with 7 deaths, which gives a mortality rate of 35 per cent., as compared with 47.1 per cent. of last year.

Tracheotomy was performed on 8 cases, of which 5 died.

Two cases were admitted with tracheotomy wounds.

## CLASSIFICATION OF DIPHTHERIA CASES.

|                              |    |                             |   |
|------------------------------|----|-----------------------------|---|
| Hæmorrhagic ... ..           | 1  | Faucial and Palatal ... ..  | 9 |
| Laryngeal ... ..             | 20 | Faucial and Nasal ... ..    | 6 |
| Faucial ... ..               | 20 | Nasal and Pharyngeal ... .. | 1 |
| Faucial and Laryngeal ... .. | 1  |                             |   |

## COMPLICATIONS.

|                          |    |                              |    |
|--------------------------|----|------------------------------|----|
| Paralysis Palatal ... .. | 24 | Paralysis Lower Limbs ... .. | 1  |
| „ Pharyngeal ... ..      | 9  | Antitoxin Rash ... ..        | 35 |
| „ Accommodation ... ..   | 5  | Albuminuria ... ..           | 27 |
| „ Facial ... ..          | 1  | Rhinitis ... ..              | 43 |
| „ Upper Limbs ... ..     | 2  | Adenitis ... ..              | 66 |

One million and forty thousand antitoxin units were given after admission to 121 cases, being an average of 8,595 units per case.

Sixty-five thousand units antitoxin were given before admission to 12 cases, being an average of 5,417 units for each case.

Four patients died within twenty-four hours of admission, and one died within forty-eight hours of admission.

The average stay in hospital of the patients who died was 2.4 days.

The average stay of the patients who recovered was 46.2 days.

## REVISION OF DIAGNOSIS.

Of the cases notified as diphtheria 11 were found to be suffering from tonsillitis, 1 from laryngitis, and 1 from scarlet fever.

## CROSS INFECTION.

Three cases of diphtheria contracted scarlet fever and two chicken-pox after admission.

## HEALTH OF STAFF.

## List of Nurses Sick during the year.

|                                |    |               |     |
|--------------------------------|----|---------------|-----|
| Tonsillitis ... ..             | 25 | Days off duty | 136 |
| Influenza ... ..               | 20 | „ „           | 107 |
| Diphtheria ... ..              | 5  | „ „           | 105 |
| Measles ... ..                 | 3  | „ „           | 74  |
| Scarlet Fever ... ..           | 19 | „ „           | 610 |
| Rheumatism ... ..              | 4  | „ „           | 56  |
| Sore Throat ... ..             | 1  | „ „           | 4   |
| Dental Abscess ... ..          | 1  | „ „           | 4   |
| Erysipelas ... ..              | 2  | „ „           | 20  |
| Post-Diphtheria... ..          | 1  | „ „           | 21  |
| Secondary Scarlet Fever ... .. | 1  | „ „           | 33  |
| Sprained Ankle ... ..          | 1  | „ „           | 9   |
| Headache ... ..                | 1  | „ „           | 2   |
| Gastritis ... ..               | 2  | „ „           | 2   |
| Parotitis ... ..               | 2  | „ „           | 37  |
| Abdominal Pain ... ..          | 1  | „ „           | 6   |
| Laryngitis ... ..              | 1  | „ „           | 4   |
| Phthisis ... ..                | 1  | „ „           | 4   |
| Anæmia ... ..                  | 1  | „ „           | 4   |

## List of Maids Sick during the year.

|                       |   |               |     |
|-----------------------|---|---------------|-----|
| Tonsillitis ... ..    | 7 | Days off duty | 45  |
| Synovitis... ..       | 1 | " "           | 10  |
| Rheumatism ... ..     | 1 | " "           | 5   |
| Influenza... ..       | 6 | " "           | 36  |
| Adenitis ... ..       | 1 | " "           | 36  |
| Septic Thumb ... ..   | 1 | " "           | 8   |
| Diphtheria ... ..     | 2 | " "           | 104 |
| Bronchitis ... ..     | 1 | " "           | 8   |
| Abscess in Leg ... .. | 1 | " "           | 13  |
| Fainting ... ..       | 1 | " "           | 1   |
| Anæmia ... ..         | 1 | " "           | 4   |

Eighty-two soldiers suffering from infectious diseases have been treated in this hospital from March to December.

## REPORT ON LODGE ROAD HOSPITAL.

This hospital was kept in full working order until the beginning of October, when it was found possible to stop the admission of patients, and eventually to transfer the convalescent cases of diphtheria to Little Bromwich Hospital. It was finally closed on December 15th, and is being kept in a clean and workable condition, ready for use should any emergency arise. During the time it was in use in 1915 227 cases of scarlet fever and 755 of diphtheria were admitted.

An experiment of some importance in hospital administration was made at this hospital during the year 1915. For a number of years suspicion attached to the cups, plates, knives, forks, and spoons used by the patients of conveying infection from patient to patient, as they are all interchangeable. From June 1st, 1914, to May 31st, 1915, all crockery, etc., was sterilized after use by the patient. Observations were made on this incidence of other infections in 1,388 cases in the scarlet fever wards before the process of sterilization was inaugurated, and on 537 after it was commenced. Similarly, 334 cases of diphtheria were recorded before and 1,145 cases after disinfection, a total of 3,434 patients. The results show that so far as scarlet fever and chicken-pox infection are concerned this sterilization was of distinct value.

CROSS INFECTION AT LODGE ROAD HOSPITAL,  
with reference to sterilization of eating utensils.

## I.—IN SCARLET FEVER WARDS.

|  | Before 1st June, 1912—<br>31st May, 1913,<br>1,388 cases. |      | After 1st June, 1914—<br>31st May, 1915,<br>537 cases. |      |
|--|---|------|--|------|
|  | Number.   | %    | Number.  | %    |
| No signs and remained free from Scarlet Fever ... .. | 115   | 8·3  | 43   | 8·0  |
| No signs and contracted Scarlet Fever ... ..         | 17  | 14·8 | 0  |      |
| Contracted Chicken-pox ... ..                        | 14  | 1·0  | 1  | 0·18 |
| Contracted Diphtheria ... ..                         | 4   | 0·28 | 11   | 2·05 |
| Contracted Measles ... ..                            | 3   | 0·20 | 4  | 0·75 |
| Contracted any infection (total) ... ..              | 38  | 2·7  | 16   | 2·9  |

## II.—IN DIPHTHERIA WARDS.

|   | Before 16th Oct., 1912—<br>14th June, 1913,<br>344 cases. |     | After 1st July, 1914—<br>30th June, 1915,<br>1,145 cases. |     |
|---|---|-----|---|-----|
|   | Number.   | %   | Number.   | %   |
| Contracted Scarlet Fever ... ..         | 11  | 3·2 | 17  | 1·5 |
| Contracted Measles ... ..               | 8   | 2·3 | 5   | 0·4 |
| Contracted Chicken-pox ... ..           | 1   | 0·3 | 10  | 0·8 |
| Contracted any infection (total) ... .. | 20  | 5·8 | 32  | 2·8 |

## WEST HEATH HOSPITAL REPORT.

The number of cases of scarlet fever dealt with at this hospital was as follows :—

|                          |     |     |     |     |     |     |     |     |
|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Remaining at end of 1914 | ... | ... | ... | ... | ... | ... | ... | 29  |
| Admitted during 1915     | ... | ... | ... | ... | ... | ... | ... | 226 |
| Discharged during 1915   | ... | ... | ... | ... | ... | ... | ... | 216 |
| Died                     | ... | ... | ... | ... | ... | ... | ... | 9   |
| Remaining at end of 1915 | ... | ... | ... | ... | ... | ... | ... | 30  |

As regards phthisis the cases were as follows :—

|                          |     |     |     |     |     |     |     |     |
|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Remaining at end of 1914 | ... | ... | ... | ... | ... | ... | ... | 39  |
| Admitted during 1915     | ... | ... | ... | ... | ... | ... | ... | 194 |
| Discharged during 1915   | ... | ... | ... | ... | ... | ... | ... | 126 |
| Died                     | ... | ... | ... | ... | ... | ... | ... | 52  |
| Remaining at end of 1915 | ... | ... | ... | ... | ... | ... | ... | 55  |

During the year under review the work of providing reasonable accommodation for the staff has made good progress, and will be a great asset, not only in giving the nurses comfortable accommodation, but in inducing them to remain in the service of the Corporation.

## WITTON HOSPITAL REPORT.

This hospital was opened on April 14th for the admission of women suffering from tuberculosis, and sent by the Guardians. The number admitted up to the end of the year was 120. In the first quarter of the year the hospital had been in use for scarlet fever cases, 69 of which were admitted prior to its being closed on March 29th.

## GENERAL SANITARY WORK.

During the whole of the year 1915 the work of the Department has been maintained at somewhat below its normal level by reason of the reduction of staff and by the considerable difficulty which owners of property have experienced in getting repairs done.

There has been a very laudable endeavour on the part of property owners to have carried out any really important sanitary repairs, so that it may be said without fear that no serious harm has resulted from the shortage of technically-trained men for repair work. The staff, on the other hand, have not demanded work to be done which was not considered to be essential.

The most difficult problem presented during the year was the prevention of overcrowding in some areas of the city, due to the influx of workers from other districts. Formerly it was regarded by the people of Birmingham as an insanitary and wrong proceeding for two families to occupy one house. A good many of the larger artisan dwellings were sub-let to a second family during 1915. So long as this did not produce overcrowding in the various rooms no notice was taken of it by the staff.

General figures are given below, which indicate the nature of the work.

No. of visits and revisits paid :—

|                                  |     |     |     |     |     |        |
|----------------------------------|-----|-----|-----|-----|-----|--------|
| Infectious Diseases              | ... | ... | ... | ... | ... | 10,367 |
| Prevalence of Sore Throats       | ... | ... | ... | ... | ... | 9,697  |
| Nuisances or Complaints          | ... | ... | ... | ... | ... | 25,124 |
| Work ordered                     | ... | ... | ... | ... | ... | 30,826 |
| Work in progress                 | ... | ... | ... | ... | ... | 18,380 |
| Inspection of Dirty Courts       | ... | ... | ... | ... | ... | 3,855  |
| Systematic Court-yard Inspection | ... | ... | ... | ... | ... | 37,448 |
| House to House Inspection        | ... | ... | ... | ... | ... | 7,522  |
| Manure Receptacles               | ... | ... | ... | ... | ... | 7,446  |
| Smoke or Water Tests             | ... | ... | ... | ... | ... | 1,392  |
| Offensive Trades                 | ... | ... | ... | ... | ... | 124    |
| Ice Cream Vendors                | ... | ... | ... | ... | ... | 233    |
| Calls on Owners or Agents        | ... | ... | ... | ... | ... | 4,006  |
| Billets for Soldiers             | ... | ... | ... | ... | ... | 2,654  |
| Other Purposes                   | ... | ... | ... | ... | ... | 4,813  |



## Nuisances, etc., reported :—

|   |        |        |
|---|--------|--------|
| Houses to be disinfected after Scarlet Fever          | ...    | 2,794  |
| "    "    "    Diphtheria                             | ... .. | 1,031  |
| "    "    "    Typhoid Fever                          | ... .. | 43     |
| Repairs to Houses                                     | ... .. | 24,770 |
| Houses to be cleansed                                 | ... .. | 2,386  |
| Houses to be provided with better ventilation         | ...    | 582    |
| Houses to be provided with separate water supply      | ...    | 69     |
| Cases of overcrowding to be remedied                  | ...    | 119    |
| Houses to be provided with Damp Courses               | ...    | 1,809  |
| Water to be removed from Cellars                      | ... .. | 458    |
| Spouting to be repaired or disconnected               | ... .. | 4,437  |
| Rain Water Cisterns to be disconnected or abolished   | ...    | 480    |
| Ashpit Privies to be converted to Water Closets       | ...    | 76     |
| Pan Privies to be converted to Water Closets          | ...    | 124    |
| Privies and Closets to be limewashed                  | ... .. | 1,239  |
| Water Closets to be repaired or reconstructed         | ...    | 4,661  |
| Additional Water Closets to be provided               | ... .. | 121    |
| Ashplaces to be repaired or limewashed                | ... .. | 1,967  |
| Ash Tubs to be provided                               | ... .. | 2,785  |
| Soilpipes to be repaired or removed                   | ... .. | 84     |
| Urinals to be put in order or closed                  | ... .. | 138    |
| Drains to be relaid or repaired                       | ... .. | 1,913  |
| Drains to be opened and cleansed                      | ... .. | 7,737  |
| Gully Traps to be provided                            | ... .. | 1,232  |
| Interception Traps to be provided on main drains      | ...    | 92     |
| Premises to be supplied with additional drains        | ...    | 739    |
| Drains in cellars to be disconnected or abolished     | ...    | 36     |
| Sink Bend Pipes to be repaired or affixed             | ... .. | 1,606  |
| Sanitary Sinks to be provided                         | ... .. | 1,217  |
| Yards to be paved                                     | ... .. | 463    |
| Yards to be repaired                                  | ... .. | 3,249  |
| Courts or Yards to be cleansed by Tenants             | ...    | 385    |
| Wash Houses to be repaired or limewashed              | ...    | 1,711  |
| Keeping of fowls to be discontinued                   | ... .. | 161    |
| Nuisances from swine and swine styes abated           | ...    | 39     |
| Accumulations of rubbish, manure, etc., to be removed | ...    | 1,275  |
| Manure receptacles to be provided or repaired         | ...    | 1,108  |
| Dangerous premises to be reported to City Surveyor's  | ...    |        |
| Department  | ... .. | 383    |
| Defective Fittings to be reported to Water Dept.      | ...    | 1,409  |
| Other Work to be done                                 | ... .. | 113    |

In addition to verbal instructions given, there were 14,591 preliminary written notices issued in connection with these defects, and in 830 instances the preliminary notice was followed by a statutory notice, while in 22 cases a summons had to be taken out.

## HOUSING OF THE WORKING CLASSES ACTS.

During the whole year it has been found undesirable to progress with the reparation of old house property on account of the great need which arose for small dwellings. Practically the only cases dealt with were those in which proceedings had already commenced. A few very dilapidated dwellings were represented as unfit, as is seen from the following figures :—

|  |        |     |
|--|--------|-----|
| Represented as unfit                   | ... .. | 63  |
| Closing orders made                    | ... .. | 75  |
| Houses rendered habitable under notice | ... .. | 152 |
| Repaired without notice                | ... .. | 6   |
| Houses demolished                      | ... .. | 340 |
| Converted to workshops                 | ... .. | 6   |
| Obstructive buildings demolished       | ... .. | 12  |
| Courts opened to street                | ... .. | 8   |



The following table gives particulars of the houses dealt with during 1915 and in previous years :—

| YEAR.      | Represented. |             | Closing Orders. |             | Rendered Habitable. |             | Demolished. |             | Demolition Orders. |             |
|------------|--------------|-------------|-----------------|-------------|---------------------|-------------|-------------|-------------|--------------------|-------------|
|            | Houses.      | Properties. | Houses.         | Properties. | Houses.             | Properties. | Houses.     | Properties. | Houses.            | Properties. |
| 1903... .. | 304          | 85          | 65              | 19          | 155                 | 32          | 34          | 19          | 51                 | 15          |
| 1904... .. | 1119         | 143         | 233             | 31          | 242                 | 37          | 127         | 33          | 36                 | 6           |
| 1905... .. | 793          | 98          | 327             | 41          | 330                 | 38          | 230         | 43          | 61                 | 7           |
| 1906... .. | 596          | 87          | 199             | 25          | 370                 | 49          | 117         | 26          | 143                | 13          |
| 1907... .. | 806          | 120         | 679             | 102         | 262                 | 41          | 422         | 64          | 157                | 24          |
| 1908... .. | 650          | 79          | 184             | 24          | 494                 | 69          | 257         | 43          | 164                | 30          |
| 1909... .. | 521          | 70          | 220             | 34          | 381                 | 54          | 216         | 45          | 54                 | 9           |
| 1910... .. | 609          | 72          | 173             | 27          | 277                 | 46          | 291         | 59          | 41                 | 10          |
| 1911... .. | 278          | 49          | 360             | 51          | 202                 | 30          | 163         | 37          | 71                 | 11          |
| 1912... .. | 926          | 135         | 727             | 106         | 300                 | 44          | 349         | 36          | 209                | 37          |
| 1913... .. | 1166         | 227         | 1261            | 234         | 237                 | 44          | 398         | 83          | 553                | 91          |
| 1914... .. | 58           | 17          | 252             | 52          | 322                 | 64          | 478         | 115         | 587                | 120         |
| 1915... .. | 63           | 19          | 75              | 22          | 152                 | 33          | 340         | 71          | 107                | 27          |
| Total ...  | 7889         | 1201        | 4755            | 768         | 3724                | 581         | 3422        | 674         | 2234               | 400         |

#### HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910.

|   |       |
|---|-------|
| (1) Dwellings inspected under above regulations ... ..                  | 3,466 |
| (2) Number of such dwellings unfit for habitation ... ..                | 21    |
| (3) Number of houses in which representations were made ... ..          | 63    |
| (4) Number in which closing orders were made ... ..                     | 75    |
| (5) Number in which defects were remedied without closing orders ... .. | 3,036 |
| (6) Number made fit after closing order ... ..                          | 152   |
| (7) General character of defects found (see page 48).                   |       |

Number of new dwelling houses completed during 1915 ... .. 631

#### COMMON LODGING HOUSES.

Two new lodging houses were registered during the year, making 39 such houses in the city, having accommodation for 2,613 lodgers. One inspector devoted a large part of his time to the work of supervision of these houses. His record books show :—

|   |       |
|---|-------|
| Visits by day ... ..                              | 2,967 |
| Visits by night ... ..                            | 212   |
| Work ordered :—                                   |       |
| Windows to be opened ... ..                       | 6     |
| Floors cleansed ... ..                            | 38    |
| Provide ventilators ... ..                        | 4     |
| Walls, floors, roofs, etc., to be repaired ... .. | 299   |
| Wash-basins to be fixed ... ..                    | 2     |
| Water-closets to be provided ... ..               | 1     |
| Water-closets to be repaired ... ..               | 27    |
| Water-closets to be cleansed ... ..               | 3     |
| Ashbins to be provided ... ..                     | 4     |
| Drains or yards to be repaired ... ..             | 9     |
| Fire buckets to be provided, etc. ... ..          | 12    |
| House to be limewashed ... ..                     | 81    |
| Removal of rubbish ... ..                         | 3     |
| Bed linen cleansed (sets) ... ..                  | 124   |
| Verminous bedding ... ..                          | 38    |
| Summonses... ..                                   | 2     |

## HOUSES LET IN LODGINGS.

This most objectionable group of houses is in about the same condition as in former years. At the end of the year there were 610 houses on the register, with 1,957 rooms. These were let as follows:—1-room apartments, 959; 2-room apartments, 499; that is to say, 1,458 separate lettings each usually occupied by one family were contained in 610 cottages.

There were 58 new houses registered, and 24 were taken off the register. This allowed for an increase of 248 lodgers over the 1914 accommodation in the city.

The Inspector made 3,148 visits to these houses during the daytime, and found the following infringements of the regulations or defects of a sanitary character:—

|  |     |     |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|
| Overcrowding...                                  | ... | ... | ... | ... | ... | ... | ... | 49  |
| Mixing sexes ...                                 | ... | ... | ... | ... | ... | ... | ... | 24  |
| Want of repair to house ...                      | ... | ... | ... | ... | ... | ... | ... | 32  |
| Rubbish in cellar or yard ...                    | ... | ... | ... | ... | ... | ... | ... | 30  |
| Rooms and passages not swept ...                 | ... | ... | ... | ... | ... | ... | ... | 476 |
| Dirty bedding ...                                | ... | ... | ... | ... | ... | ... | ... | 67  |
| Dirty house ...                                  | ... | ... | ... | ... | ... | ... | ... | 241 |
| Drains, etc., out of repair ...                  | ... | ... | ... | ... | ... | ... | ... | 84  |
| Want of ashbins ...                              | ... | ... | ... | ... | ... | ... | ... | 14  |
| Windows not opened ...                           | ... | ... | ... | ... | ... | ... | ... | 381 |
| Light and ventilation not provided ...           | ... | ... | ... | ... | ... | ... | ... | 2   |
| Houses reported to Medical Officer of Health ... | ... | ... | ... | ... | ... | ... | ... | 15  |

## CANAL BOATS.

The following is a copy of the report made in accordance with the provisions of the Canal Boats Acts:—

## PUBLIC HEALTH AND HOUSING DEPARTMENT.

THE COUNCIL HOUSE, BIRMINGHAM,

31st January, 1916.

Gentlemen,

In compliance with Section 3 of the Canal Boats Act, 1884, I present to you the annual report of the work done under the Canal Boats Acts, 1877 and 1884, and the regulations of the Local Government Board made thereunder, for the year ended December, 1915.

Inspector W. G. E. Childs continued to hold the office of Canal Boats Inspector. He is also the Inspector of Houses-let-in-Lodgings in the city, and his salary for the combined appointment is £117 per annum, together with uniform and cycle allowance and office accommodation at the Council House, Birmingham. Since November 9th Inspector Childs has been away on military service, and Inspector H. Howes, who also acts as Inspector of Common Lodging Houses in the city, has been appointed to do the Canal Boat work in his absence.

## INSPECTION OF BOATS.

During the year 1915 802 boats, registered to carry 2,551½ adults, were inspected, and the numbers of persons found occupying these boats were 1,054 men, 545 women, and 456 children, in all 2,055 persons—equivalent to 1,827 adults.

The distribution of inspections over the four quarters of the year is shown as follows:—

|                    |     |     |     |     |     |
|--------------------|-----|-----|-----|-----|-----|
| First quarter ...  | ... | ... | ... | ... | 245 |
| Second quarter ... | ... | ... | ... | ... | 225 |
| Third quarter ...  | ... | ... | ... | ... | 220 |
| Fourth quarter ... | ... | ... | ... | ... | 112 |

The following table shows the yearly number of inspections made since 1906, with the number of adults they were registered to carry:—

| Year.    | No. of Boats Inspected. | Registered to carry (adults). |
|----------|-------------------------|-------------------------------|
| 1906 ... | 1,069                   | 3,507½                        |
| 1907 ... | 1,047                   | 3,348                         |
| 1908 ... | 1,030                   | 3,354½                        |
| 1909 ... | 738                     | 2,416                         |
| 1910 ... | 1,044                   | 3,399½                        |
| 1911 ... | 1,062                   | 3,511½                        |
| 1912 ... | 1,120                   | 3,529                         |
| 1913 ... | 1,082                   | 3,314                         |
| 1914 ... | 1,048                   | 3,234½                        |
| 1915 ... | 802                     | 2,551½                        |

Of the 802 boats inspected 758, or 94·5% were found to be in order and complying with the Acts and Regulations, but in 44, or 5·5%, contraventions of various kinds were found, and notice was served on the owner in every case. The total number of contraventions found were 89, and were distributed as follows:—

|                                       |    |       |    |
|---------------------------------------|----|-------|----|
| Boats found with 1 contravention each | 16 | total | 16 |
| “ “ “ 2 contraventions “              | 13 | “     | 26 |
| “ “ “ 3 “ “                           | 13 | “     | 39 |
| “ “ “ 4 “ “                           | 2  | “     | 8  |
|                                       | 44 |       | 89 |

Notices were returned certifying that 110 complaints had been remedied during the year.

The character of the infringements found, and also of those remedied, are classified in the following table:—

| Contraventions referring to | Outstanding and brought forward from 1914. | Found during 1915. | Remedied during 1915. | Carried forward to be dealt with in 1916. |
|-----------------------------|--|--------------------|-----------------------|---|
| Registration ...            | —  | 6                  | 6                     | —   |
| Certificates ...            | 2  | 5                  | 7                     | —   |
| Marking ...                 | 9  | 18                 | 26                    | 1   |
| Overcrowding ...            | —  | 4                  | 4                     | —   |
| Separation of sexes ...     | —  | 2                  | 2                     | —   |
| Leaks of cabins...          | 2  | 3                  | 5                     | —   |
| Painting of cabins ...      | 10   | 26                 | 31                    | 5   |
| Repairs of cabins ...       | 9  | 24                 | 29                    | 4   |
| Cleanliness of cabins ...   | —  | 1                  | —                     | 1   |
|                             | 32   | 89                 | 110                   | 11  |

The custom has again been followed as previously of writing to the owners when the complaint notes have not been returned within a reasonable time, and this has generally been found to work quite satisfactorily, although there has, of necessity, in many cases been longer delay than usual this year in complying with the notice owing to shortage of labour and other causes connected with the war. Due allowance has been made for these conditions, and it is believed that the owners have complied to the best of their ability. Legal proceedings were taken against the owner of the boat “Nettle,” No. 386, Coventry, for “not producing Certificate of Registration.” Notice of the complaint was sent to the owner, but no reply being received to this, or to a reminding notice, proceedings were instituted and a fine of 10s. and 8s. 6d. costs—total 18s. 6d.—was imposed.

#### INFECTIOUS DISEASE.

It is gratifying to be able to again report this year, as in the preceding year, that no cases of infectious disease have been found, or reported, on the boats in the city.

#### REGISTRATION OF BOATS.

During the year 21 boats have been registered in Birmingham and 14 registrations have been cancelled, making a net increase of 7 boats on the register.

The registrations are shown as follows:—

|                                       |    |
|---------------------------------------|----|
| New Motor Boats ...                   | 2  |
| New Ordinary Boats ...                | 3  |
| Re-registration of Ordinary Boats ... | 16 |
| Total ...                             | 21 |

Of the 16 re-registrations 1 was due to structural alterations and 15 to change of ownership. Seven of these boats were previously on the Birmingham register, while 5 belonged to Uxbridge, 1 to Wolverhampton, 1 to Stoke-on-Trent, 1 to Chester, and in 1 case the previous registration authority was unknown. In all the known cases the authority concerned was notified of the re-registration of the boats in Birmingham.

#### BOATS ON THE REGISTER.

The number of boats on the register on December 31st, 1915, was 464, as compared with 457 for the same date in 1914. The figures for the five previous years are as follows:—

On December 31st, 1909, there were 397 boats on the register.

|                |       |
|----------------|-------|
| “ 31st, 1910 “ | 402 “ |
| “ 31st, 1911 “ | 419 “ |
| “ 31st, 1912 “ | 433 “ |
| “ 31st, 1913 “ | 448 “ |

Of the boats on the register 18 are motor boats, which are propelled by crude oil internal combustion engines, and are fitted with cabin immediately astern of the engine room. The dates of registration of these motor boats are shown as follows:—

|   |                     |
|---|---------------------|
| Nos. 1242 and 1249 ...                          | Registered in 1911. |
| Nos. 1256, 1275, and 1276 ...                   | Registered in 1912. |
| Nos. 1286, 1290, 1299, 1301, and 1304 ...       | Registered in 1913. |
| Nos. 1308, 1310, 1314, 1316, 1320, and 1325 ... | Registered in 1914. |
| Nos. 1335 and 1342 ...                          | Registered in 1915. |

I am, Gentlemen, Your obedient servant,

T. W. BEAZELEY, M.B., D.P.H.,  
Assistant Medical Officer of Health.



## MILK SHOPS.

No reduction in the amount of staff given to this important work was made in 1915. Unfortunately, it is exceedingly difficult or impossible to attain to a sufficient degree of cleanliness in the collection and distribution of milk in this country. Not only are farmers satisfied to supply milk contaminated by cow dung at the farm, but both the railway companies and the distributors adopt methods which cannot but lead to disastrous results so far as cleanliness of the milk is concerned. The public tolerate these conditions because they do not realise what is happening or what ought to be the conditions of supply.

During the year 1915 the Milk and Dairies Consolidation Act, 1915, was passed, and when this is put in operation better attention will have to be paid to both milking and the conditions of transit.

The number of dairies, milkshops, and purveyors of milk on the register in Birmingham at the end of 1915 was 4,639. There were 568 new milkshops and 28 purveyors registered during the year, while 596 milkshops or purveyors were removed from the register. The two inspectors engaged in inspecting premises and utensils and in the upkeep of the register did the following work in 1915:—

|                                 |     |     |     |     |        |
|---------------------------------|-----|-----|-----|-----|--------|
| Visits to premises or purveyors | ... | ... | ... | ... | 6,976  |
| Visits to railway stations      | ... | ... | ... | ... | 41     |
| Milk vessels examined           | ... | ... | ... | ... | 13,143 |
| Milkshops needing limewashing   | ... | ... | ... | ... | 122    |
| Sanitary defects found          | ... | ... | ... | ... | 110    |
| Cases of infection at premises  | ... | ... | ... | ... | 63     |

## MILK AND CREAM REGULATIONS.

The total number of samples taken during the year was 40.

1. *Milk and Cream not sold as Preserved Cream.*

|       |     |     |     | (a)<br>No. of Samples examined<br>for the presence of a<br>Preservative. |     |     | (b)<br>No. in which a<br>Preservative was reported<br>to be present. |
|-------|-----|-----|-----|--|-----|-----|--|
| Milk  | ... | ... | ... | —  | ... | ... | —  |
| Cream | ... | ... | ... | 13   | ... | ... | 9  |

In the following table particulars are given relating to the 9 samples of cream not sold as preserved cream, in which preservatives were reported to be present.

| Number. | Results of Analysis. |     |             | Remarks.   |
|---------|----------------------|-----|-------------|--|
|         | Milk Fat.            |     | Boric Acid. |  |
| A/1769  | 41%                  | ... | 0.3%        | No declaratory label was affixed to receptacle. Vendor cautioned by letter.                                      |
| C/6713  | 26%                  | ... | 0.25%       | No declaratory label was affixed to receptacle. Vendor cautioned by letter.                                      |
| A/1917  | 46%                  | ... | 0.2%        | No declaratory label was affixed to receptacle. Vendor cautioned by letter.                                      |
| A/1983  | 44%                  | ... | 0.25%       | No declaratory label was affixed to receptacle. Vendor cautioned by letter.                                      |
| A/2091  | 42%                  | ... | 0.35%       | No declaratory label was affixed to receptacle. Vendor cautioned by letter.                                      |
| A/2174  | 49%                  | ... | 0.55%       | No declaratory label was affixed to receptacle. Vendor cautioned by the Health Committee on July 9th, 1915.      |
| C/7233  | 52%                  | ... | 0.4%        | No declaratory label was affixed to receptacle. Vendor cautioned by letter.                                      |
| C/7234  | 55%                  | ... | 0.4%        | No declaratory label was affixed to receptacle. Vendor cautioned by the Health Sub-Committee on July 15th, 1915. |
| A/2247  | 35%                  | ... | 0.58%       | No declaratory label was affixed to receptacle. Vendor cautioned by the Health Committee on July 9th, 1915.      |



2. *Cream sold as Preserved Cream.*

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct.

|                             |     |     |     |     |     |     |    |
|-----------------------------|-----|-----|-----|-----|-----|-----|----|
| (1) Correct statements made | ... | ... | ... | ... | ... | ... | 25 |
| (2) Statements incorrect    | ... | ... | ... | ... | ... | ... | 2  |
| Total                       | ... | ... | ... | ... | ... | ... | 27 |

(b) Determinations made of milk fat in cream sold as preserved cream.

|                        |     |     |     |     |     |     |    |
|------------------------|-----|-----|-----|-----|-----|-----|----|
| (1) Above 35 per cent. | ... | ... | ... | ... | ... | ... | 27 |
| (2) Below 35 per cent. | ... | ... | ... | ... | ... | ... | —  |
| Total                  | ... | ... | ... | ... | ... | ... | 27 |

(c) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V. (1) and the proviso in Article V. (2) of the regulations have not been observed.

No case was brought to notice of any infringement of Article V. (1) or the proviso in Article V. (2) of the regulations.

(d) In the following table, particulars are given relating to the two samples of cream sold as preserved cream in regard to which incorrect statements were made on the declaratory labels and also instances where the requirements as to labelling of preserved cream in accordance with Article V. (2) were not strictly complied with.

| Number. | Results of Analysis. |          |             |       | Remarks.   |
|---------|----------------------|----------|-------------|-------|--|
|         | Milk Fat.            |          | Boric Acid. |       |  |
| C/7356  | ...                  | 35%      | ...         | 0.6%  | The amount of boric acid present was 0.1% in excess of the stated proportion. The label and type was not of the standard size, and the receptacle was not labelled from which the cream was served. Vendor cautioned by the Health Committee on July 9th, 1915.  |
| A/1766  | ...                  | 48%      | ...         | —     | No boric acid was found to be present, although a label as follows was affixed to receptacle, "Preserved Cream, containing boric acid not exceeding 0.5%."   |
| A/1767  | ...                  | 47%      | ...         | 0.3%  | The printing on the declaratory label was not of standard size. Vendor cautioned by letter.  |
| C/7072  | ...                  | 38%      | ...         | 0.45% | The tin was labelled "Double Thick Cream," and in another place the word "Preserved" was in much smaller type than the word "Cream." The printing on the declaratory label was not of the standard size or type. Vendors and London Packers cautioned by letter. |
| C/7235  | ...                  | 35%      | ...         | 0.45% | The declaratory label was not of the standard size or type. Vendor cautioned by the Health Committee on July 9th, 1915.  |
| C/7357  | ...                  | Over 35% | ...         | 0.3%  | The type on the declaratory label was not of the standard size, and the receptacle was not labelled from which the cream was served. Vendor cautioned by the Health Sub-Committee on July 15th, 1915.  |
| A/2248  | ...                  | 47%      | ...         | 0.45% | The printing on the declaratory label was not of the standard size. Vendor cautioned by the Health Committee on July 9th, 1915.  |
| A/2294  | ...                  | 50%      | ...         | 0.3%  | The declaratory label nor the type was of the standard size. Wholesalers cautioned by the Health Committee on July 23rd, 1915.   |

3. *Thickening Substances.*

There was no evidence of the addition of any thickening substance either to cream or preserved cream. The following is a complete list of the samples of cream and preserved cream above referred to, and the percentage of preservative found to be present as compared with that indicated in the statutory label (where affixed) in respect of each sample is also set out.

| Number. | Article.        | Percentage of Boric Acid indicated in Statutory label. |     |     |          | Percentage of Boric Acid found on analysis. |               |
|---------|-----------------|--|-----|-----|----------|---|---------------|
| A/1765  | Preserved Cream | ...  | ... | ... | 0.5%     | ...   | 0.2%          |
| A/1766  | Preserved Cream | ...  | ... | ... | 0.5%     | ...   | None present. |
| A/1767  | Preserved Cream | ...  | ... | ... | 0.5%     | ...   | 0.3%          |
| A/1768  | Preserved Cream | ...  | ... | ... | 0.5%     | ...   | 0.4%          |
| A/1769  | Cream           | ...  | ... | ... | No label | ...   | 0.3%          |
| A/1912  | Preserved Cream | ...  | ... | ... | 0.5%     | ...   | 0.1%          |
| A/1913  | Preserved Cream | ...  | ... | ... | 0.5%     | ...   | 0.2%          |
| A/1914  | Preserved Cream | ...  | ... | ... | 0.5%     | ...   | 0.25%         |

| Number. | Article.            | Percentage of Boric Acid<br>indicated in Statutory Label. |     |     |          |     |     | Percentage of Boric Acid<br>found on analysis. |              |
|---------|---------------------|---|-----|-----|----------|-----|-----|--|--------------|
| A/1915  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.1%         |
| A/1916  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.35%        |
| A/1917  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | 0.2%         |
| A/1981  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.35%        |
| A/1982  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.45%        |
| A/1983  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | 0.25%        |
| A/2033  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.35%        |
| A/2034  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.25%        |
| A/2035  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.4%         |
| A/2091  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | 0.35%        |
| A/2092  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.40%        |
| A/2093  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.35%        |
| A/2146  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.45%        |
| A/2147  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.35%        |
| A/2148  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | None present |
| A/2174  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | 0.55%        |
| A/2247  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | 0.58%        |
| A/2248  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.45%        |
| A/2294  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.3%         |
| C/6712  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | None present |
| C/6713  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | 0.25%        |
| C/6875  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.4%         |
| C/6876  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.2%         |
| C/6877  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | None present |
| C/7072  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.45%        |
| C/7233  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | 0.4%         |
| C/7234  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | 0.4%         |
| C/7235  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.45%        |
| C/7356  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.6%         |
| C/7357  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.3%         |
| C/8180  | Cream ...           | ...   | ... | ... | No label | ... | ... | ...  | None present |
| C/8477  | Preserved Cream ... | ...   | ... | ... | 0.5%     | ... | ... | ...  | 0.1%         |

### INSPECTION OF MEAT, FISH, FRUIT, ETC.

The following information has been supplied by the Markets Superintendent who carries out the duty of supervising the Meat, Fish, Fruit, etc., supplies.

As in former years eight inspectors (two on active service with H. M. Forces) were engaged in visiting the public and large numbers of private slaughter houses. For this purpose they made 10,819 visits in addition to the constant work carried on at the public slaughter houses and wholesale and retail markets.

The amount of food seized and surrendered was as follows :—

#### *Bad Meat.*

|                         |     |     |             |
|-------------------------|-----|-----|-------------|
| Voluntarily surrendered | ... | ... | 3,931 lots. |
| Seized by Inspectors    | ... | ... | 2 „         |
| Weight destroyed        | ... | ... | 289 tons.   |
| Persons prosecuted      | ... | ... | 1           |
| Penalties inflicted     | ... | ... | £40         |

#### *Bad Fish, Poultry, etc.*

|                         |     |     |             |
|-------------------------|-----|-----|-------------|
| Voluntarily surrendered | ... | ... | 1,045 lots. |
| Seized                  | ... | ... | 2 „         |
| Weight destroyed        | ... | ... | 83 tons.    |
| Persons prosecuted      | ... | ... | 1           |
| Penalties inflicted     | ... | ... | £3          |

#### *Bad Fruit, etc.*

|                  |     |     |          |
|------------------|-----|-----|----------|
| Weight destroyed | ... | ... | 48 tons. |
|------------------|-----|-----|----------|

## SHOPS ACT, 1912.

(REPORT BY DR. BEAZELEY, SENIOR ASSISTANT MEDICAL OFFICER)

The administration of the Shops Acts has been carried on on similar lines to previous years, although owing to the provisions of the Acts being more generally understood and acted on, it has not been necessary to make the same large number of inspections as in previous years. The total number of visits paid to shops by the Inspectors during 1915 was 25,086, and was made up as follows:—

|                              |     |     |     |     |     |     |     |     |        |
|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|--------|
| Shops observed without entry | ... | ... | ... | ... | ... | ... | ... | ... | 8,969  |
| Systematic visits            | ... | ... | ... | ... | ... | ... | ... | ... | 10,759 |
| Re-visits                    | ... | ... | ... | ... | ... | ... | ... | ... | 4,524  |
| Special visits               | ... | ... | ... | ... | ... | ... | ... | ... | 834    |
| Total                        | ... | ... | ... | ... | ... | ... | ... | ... | 25,086 |

The same practice as in previous years has been adopted of verbally informing the shopkeeper of any contravention of the Act found at these visits and of sending an official printed notice if it is found on a subsequent visit that the infringement has not been remedied. Official notices to this effect were sent in 479 cases, and are tabulated as follows:—

|   |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| Not specifying early closing day                      | ... | ... | ... | ... | ... | ... | ... | 89  |
| Not exhibiting exempted trades notice                 | ... | ... | ... | ... | ... | ... | ... | 174 |
| Not exhibiting assistants' weekly half-holiday notice | ... | ... | ... | ... | ... | ... | ... | 84  |
| Not exhibiting young persons' notice                  | ... | ... | ... | ... | ... | ... | ... | 6   |
| Employing assistants after 1.30 p.m.                  | ... | ... | ... | ... | ... | ... | ... | 3   |
| Overtime employment of young persons                  | ... | ... | ... | ... | ... | ... | ... | 4   |
| Not closing shop at 1 p.m. on early closing day       | ... | ... | ... | ... | ... | ... | ... | 113 |
| Not allowing proper meal times                        | ... | ... | ... | ... | ... | ... | ... | 6   |

The contraventions found were in the great majority of cases remedied after attention had been called to them, either verbally or by printed notice, but it was found necessary to institute legal proceedings in 13 cases. In no case was a prosecution undertaken without the shopkeeper having been previously warned by notice for a similar offence. The summonses issued are tabulated thus:

|  |     |     |     |     |     |     |     |   |
|--|-----|-----|-----|-----|-----|-----|-----|---|
| Not closing on the weekly half-holiday         | ... | ... | ... | ... | ... | ... | ... | 9 |
| Not exhibiting the early closing notice        | ... | ... | ... | ... | ... | ... | ... | 1 |
| Not exhibiting young persons' notice           | ... | ... | ... | ... | ... | ... | ... | 1 |
| Not exhibiting assistants' half-holiday notice | ... | ... | ... | ... | ... | ... | ... | 2 |

In all these cases convictions were obtained, and the total amount of fines inflicted was 75s. and costs.

The following shows details of these penalties:—

For not closing on the half-holiday 1 defendant was fined 20/- and costs.

|   |   |   |   |   |      |                 |
|---|---|---|---|---|------|-----------------|
| " | " | 1 | " | " | 10/- | "               |
| " | " | 4 | " | " | 5/-  | each and costs. |
| " | " | 3 | " | " | 1/-  | "               |

For not exhibiting early closing notice

|     |     |     |     |   |   |   |                |
|-----|-----|-----|-----|---|---|---|----------------|
| ... | ... | ... | ... | 1 | " | " | 5/- and costs. |
|-----|-----|-----|-----|---|---|---|----------------|

For not exhibiting assistants' weekly

|                     |     |     |     |   |   |   |                     |
|---------------------|-----|-----|-----|---|---|---|---------------------|
| half-holiday notice | ... | ... | ... | 2 | " | " | 5/- each and costs. |
|---------------------|-----|-----|-----|---|---|---|---------------------|

For not exhibiting young persons'

|        |     |     |     |   |   |   |      |
|--------|-----|-----|-----|---|---|---|------|
| notice | ... | ... | ... | 1 | " | " | 7/6. |
|--------|-----|-----|-----|---|---|---|------|

Fewer anonymous complaints of infringements have been received than usual, and this has probably been due partly to the principles of the Act being more thoroughly understood and acted upon by employers, and partly also to the shop assistants, realizing the urgency of the times and the difficulties under which their employers are working, being less ready to make complaints.

## CLOSING AND EXEMPTION ORDERS.

The Closing and Exemption Orders in force in the City remain the same as at the close of 1914, and no alteration has been made.

Under these Orders Pawnbrokers' and Hay and Corn Dealers' shops are obliged to close on a specified half-day in each week, Wednesday being the day chosen, while grocers' shops and photographic studios are exempted from the necessity of closing for a weekly half-holiday.

An application was received from the Birmingham Butchers' Association asking for the making of a Closing Order for butchers' (other than pork butchers') shops in the city. A vote was instituted, but the requisite two-thirds majority not being obtained, the Order was not proceeded with.

## SHOPS ACT, 1913.

This Act, which is an amending Act to the Shops Act, 1912, and provides for the number of hours of employment, hours of meal-times, and holidays of assistants, is applicable only to premises used for the sale of refreshments, and if adopted by a shopkeeper in place of the 1912 Act, its provisions must remain in force for a period of twelve months, and can only be withdrawn at the expiration of the first or any succeeding year after its adoption.



As explained in the report for 1914, it has not been widely adopted in Birmingham, and during that year only one restaurant business was worked under the 1913 Act. During the year under review another catering firm with four branches has elected to work under this Act, so that at the present time there are five establishments only in the city subject to its provisions.

### FACTORIES AND WORKSHOPS.

Two male and two women inspectors have been engaged during the whole year under review in dealing with those parts of the Factories and Workshops Acts which are referred to the Local Sanitary Authority.

The results of this work are set out in the following tables, which have been prepared in the form required by the Home Office.

#### I. INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES. (Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.)

| PREMISES.<br>(1)  | Number of           |                         |                      |
|---|---------------------|-------------------------|----------------------|
|   | Inspections.<br>(2) | Written Notices.<br>(3) | Prosecutions.<br>(4) |
| Factories (including Factory Laundries)   | 1180                | 84                      | —                    |
| Workshops (including Workshop Laundries) ... ..                                       | 8924                | 192                     | —                    |
| Workplaces (other than Outworkers' premises included in Part 3 of this Report) ... .. | 438                 | 4                       | —                    |
| Total ... ..  | 10542               | 280                     | —                    |
| Revisits paid ... ..  | 2916                | —                       | —                    |

#### II.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

| PARTICULARS.<br>(1)   | Number of Defects. |                  |                                     | Number of Prosecutions.<br>(5) |
|---|--------------------|------------------|-------------------------------------|--------------------------------|
|   | Found.<br>(2)      | Remedied.<br>(3) | Referred to H. M. Inspector.<br>(4) |                                |
| Nuisances under the Public Health Acts :—   |                    |                  |                                     |                                |
| Want of cleanliness ... ..  | 1412               | 1357             | 55                                  | —                              |
| Want of ventilation ... ..  | 19                 | 18               | 1                                   | —                              |
| Overcrowding ... ..   | 6                  | 6                | —                                   | —                              |
| Want of drainage of floors ... ..   | 7                  | 7                | —                                   | —                              |
| Other nuisances ... ..  | 496                | 494              | 2                                   | —                              |
| Sanitary accommodation—   |                    |                  |                                     |                                |
| Insufficient ... ..   | 158                | 154              | 4                                   | —                              |
| Unsuitable or defective ... ..  | 1184               | 1169             | 15                                  | —                              |
| Not separate for sexes ... ..   | 45                 | 44               | 1                                   | —                              |
| Offences under the Factory and Workshop Act :—  |                    |                  |                                     |                                |
| Illegal occupation of underground bakehouse (s. 101) ... ..   | —                  | —                | —                                   | —                              |
| Breach of special sanitary requirements for bakehouses (ss. 97 to 100) ...                              | 1                  | 1                | —                                   | —                              |
| Other offences (excluding offences relating to outwork which are included in Part 3 of this Report) ... | —                  | —                | —                                   | —                              |
| Total ... ..  | 3328               | 3250             | 78                                  | —                              |

## III.—HOME WORK.

| NATURE OF WORK.                  | OUTWORKERS' LISTS, SECTION 107. |                   |               |                           |                   |               |   |  |                             |     | OUTWORK IN UNWHOLESOME PREMISES, SECTION 108. |                |             |                       | OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110 |  |  |
|----------------------------------|---------------------------------|-------------------|---------------|---------------------------|-------------------|---------------|---|--|-----------------------------|-----|---|----------------|-------------|-----------------------|---|--|--|
|                                  | Lists received from Employers   |                   |               |                           |                   |               | Prosecutions.   |  | Prosecutions.               |     | In-stances.                                   | Prosecu-tions. | In-stances. | Orders made (S. 110). | Prosecu-tions (Sections 109, 110)               |  |  |
|                                  | Sending twice in the year.      |                   |               | Sending once in the year. |                   |               | Notices served on Occu-piers as to keeping or send-ing Lists. (8) | Failing to keep or permit inspection of Lists. (9) | Failing to send Lists. (10) |     |   |                |             |                       |   |  |  |
|                                  | Lists. (2)                      | Con-tractors. (3) | Work-men. (4) | Lists. (5)                | Con-tractors. (6) | Work-men. (7) |   |  |                             |     |   |                |             |                       |   |  |  |
| (1)                              | 394                             | 1055              | 1472          | 43                        | 137               | 68            | —   | —  | —                           | —   | —   | —              | —           | —                     | —   |  |  |
| Wearing apparel—(1) making, etc. | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| (2) cleaning and washing         | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Household linen                  | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Lace, lace curtains and nets     | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Curtains and furniture hangings  | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Furniture and upholstery         | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Electro-plate                    | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| File making                      | 38                              | 203               | 67            | 8                         | 17                | 26            | —   | —  | —                           | —   | —   | —              | —           | —                     | —   |  |  |
| Brass and brass articles         | 4                               | 6                 | 10            | —                         | —                 | —             | —   | —  | —                           | —   | —   | —              | —           | —                     | —   |  |  |
| Fur pulling                      | 16                              | 30                | 42            | 6                         | 17                | 73            | —   | —  | —                           | —   | —   | —              | —           | —                     | —   |  |  |
| Cables and chains                | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Anchors and grapnels             | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Cart gear                        | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Locks, latches and keys          | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Umbrellas, etc.                  | ...                             | ...               | ...           | 1                         | —                 | —             | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Artificial flowers               | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Nets, other than wire nets       | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Tents                            | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Sacks                            | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Racquet and tennis balls         | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Paper, etc., boxes, paper bags   | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Brush making                     | 36                              | —                 | 221           | 5                         | —                 | 20            | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Pea picking                      | 8                               | —                 | 40            | 2                         | —                 | 51            | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Feather sorting                  | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Carding, etc., of buttons, etc.  | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Stuffed toys                     | 76                              | 53                | 1636          | 6                         | —                 | 62            | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Basket making                    | ...                             | ...               | ...           | 1                         | —                 | 23            | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Chocolates and sweetmeats        | ...                             | ...               | ...           | ...                       | ...               | ...           | ...   | ...  | ...                         | ... | ...   | ...            | ...         | ...                   | ...   |  |  |
| Total                            | 572                             | 1347              | 3488          | 72                        | 171               | 323           | 729   | 1  | 1                           | —   | 10  | —              | —           | —                     | —   |  |  |

## IV.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year ... .. 4,876

## V.—OTHER MATTERS.

|  | Number. |
|--|---------|
| Matters notified to H.M. Inspector of Factories :—   |         |
| Failure to affix Abstract of the Factory and Workshop Acts (s.133, 1901)   | 31      |
| Action taken in matters referred by { Notified by H.M. Inspector ...   | 240     |
| H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Acts (s. 5, 1901) ... .. |         |
| Reports (of action taken) sent to H.M. Inspector ...   | 337     |
| Other ... ..   | —       |
| Underground bakehouses (s. 101) :—   |         |
| Certificates granted during the year ... ..  | —       |
| In use at the end of the year ... ..   | 8       |

## BLACK SMOKE NUISANCE.

Only 4,015 observations of one hour's duration each were made during 1915 as compared with from 10,000 to 15,000 in preceding years. Seventy-two of these were found to be excessive, and reported to the Public Health Committee.

During the year under review the following report was made on atmospheric impurity :—

## ATMOSPHERIC IMPURITY.

In addition to the various so-called soot gauges which have been installed at St. Mary's playground, Selly Oak Park, and Aston Hall, I have had a daily estimation made of the amount of impurity suspended in the atmosphere. This has been ascertained by means of Owen's air filter, and the observations have been made by Inspector Hill at St. Mary's playground at the rear of the General Hospital.

The filter in question consists of an apparatus which allows of exactly two litres of air being filtered through a piece of specially prepared white filter paper, the colour produced being measured against a standard colour disc.

Daily estimations have been made from the first of December, 1914, to June 30th. Unfortunately, at this latter date it was impossible to continue owing to staff not being available. The colour of the impurities is shown on the filter paper, and by comparing this with certain standard colours, a number is obtained running from 0 to 20. If this number is divided by 2, one obtains approximately the weight of impurity in milligrammes per cubic metre of air in cities.

The following table shows the colour number during each of the months :—

|   | Dec.          | Jan.          | Feb.         | March | April. | May          | June. |
|---|---------------|---------------|--------------|-------|--------|--------------|-------|
| Highest shade No. during work days ...    | 10            | 6             | 5            | 5     | 5      | 5            | 4     |
| Atmospheric conditions at time ... ..     | Fog           | Slight Fog    | Dull         | Dull  | Dull   | Rain         | Clear |
| Lowest shade No. during work days ...     | 2             | 2             | 2            | 2     | 2      | 1            | 2     |
| Atmospheric conditions at the time ...    | Rain or Clear | Rain or Clear | Dull or Snow | Clear | Clear  | Sunny & Wind | Clear |
| Average shade No. per day for whole month | 4.24          | 3.40          | 3.25         | 3.26  | 3.13   | 2.51         | 2.43  |
| Highest shade No. during Sundays only ... | None          | 4             | 3            | 3     | 2      | 2            | 2     |
| Atmospheric conditions at the time ...    | —             | Slight Fog    | Dull         | Dull  | Clear  | Sunny        | Sunny |
| Lowest shade No. during Sundays only ...  | —             | 2             | 2            | 1     | 2      | 1            | 1     |
| Atmospheric conditions at the time ...    | —             | Clear         | Sunny        | Sunny | Clear  | Clear        | Sunny |
| Average shade No. (monthly) Sundays only  | —             | 2.5           | 2.25         | 2.0   | 2.0    | 1.8          | 1.5   |



It will be noted that the higher readings were obtained during foggy weather in December. It will also be noted that the average reading was very much higher in December (4.24) than in June (2.43), and that this applies not only to all the days of the month, but also to the colour readings taken on Sundays.

In the next table are set out the colour readings for each day of the week:—

|               | Dec. | Jan. | Feb. | March. | April. | May. | June. | Total. | Average. |
|---------------|------|------|------|--------|--------|------|-------|--------|----------|
| Monday ...    | 4.0  | 4.25 | 3.75 | 3.75   | 3.50   | 2.0  | 2.75  | 24.00  | 3.43     |
| Tuesday ...   | 4.5  | 3.75 | 3.25 | 4.50   | 3.0    | 3.0  | 2.75  | 24.75  | 3.53     |
| Wednesday ... | 6.0  | 3.25 | 3.75 | 3.50   | 3.0    | 2.75 | 2.50  | 24.75  | 3.53     |
| Thursday ...  | 6.25 | 3.50 | 3.50 | 3.75   | 3.50   | 2.25 | 3.0   | 25.75  | 3.68     |
| Friday ...    | 2.75 | 4.0  | 3.75 | 2.75   | 3.0    | 2.75 | 2.25  | 21.25  | 3.03     |
| *Saturday...  | 2.75 | 3.0  | 2.50 | 2.50   | 3.50   | 3.0  | 2.0   | 19.25  | 2.75     |
| Sunday ...    | Nil  | 2.50 | 2.25 | 2.0    | 2.0    | 1.8  | 1.5   | 12.05  | 2.00     |

\* Sample is taken on Saturdays when most factories are closed down or burning off fires.

It will be noticed that Saturdays and Sundays show considerably less colour than other days of the week, and probably indicate to a certain extent the amount of impurity in the atmosphere due to manufacturing processes, the difference between Sundays and the highest of the week-days being equal to a reduction of about 44 per cent.

In the next table are shown the average colour numbers taken under varying atmospheric conditions:—

|  |     |     |     |     |     |         |      |                 |
|--|-----|-----|-----|-----|-----|---------|------|-----------------|
| Fog ...  | ... | ... | ... | ... | ... | 12 days | = 76 | = 6.33 per day. |
| Dull ...   | ... | ... | ... | ... | ... | 57 ..   | =202 | = 3.54 ..       |
| Rain or snow ...                                 | ... | ... | ... | ... | ... | 25 ..   | = 81 | = 3.24 ..       |
| Clear ...  | ... | ... | ... | ... | ... | 42 ..   | =118 | = 2.81 ..       |
| Sunny ...  | ... | ... | ... | ... | ... | 62 ..   | =157 | = 2.53 ..       |
| Clear or sunny accompanied by high wind velocity | ... | ... | ... | ... | ... | 8 ..    | = 15 | = 1.87 ..       |

The state of the weather only applies to the particular part of day when sample was taken.

The above table indicates very clearly the very great difference which exists in the cleanliness of the atmosphere between foggy weather and clear weather, especially clear weather accompanied by high wind.

## HEALTH VISITORS' WORK.

(REPORT BY BLANCHE GARDINER, B.A., SUPERINTENDENT OF HEALTH VISITORS.)

Each year shows an increase in the number of Women Workers employed in what is known generally as the "Health Visitors" Department, though, as was shown in last year's report, it is now necessary to differentiate between those who are engaged in general Health Visiting and those whose attentions are confined solely to Infant Welfare or to Tuberculosis cases.

The following table shews the extent of this increase since 1910:—

|                           | Health<br>Visitors. | Infant<br>Visitors. | Tuberculosis<br>Visitors. | Totals. |
|---------------------------|---------------------|---------------------|---------------------------|---------|
| 1910                      | 16                  | 2                   | 2                         | 20      |
| 1911 (Greater Birmingham) | 21                  | 2                   | 4                         | 27      |
| 1915                      | 21                  | 12                  | 10                        | 43      |

The varied nature of the Health Visitors' work is only partly indicated by the following table. In addition, they have delivered a number of Health Lectures or Talks at Mothers' Meetings, to Factory Girls, etc., have given evidence in Police Court cases, and have generally been the ones called upon to make special and unusual enquiries instituted by the Public Health Department or outside agencies, as it is felt that their wide experience and intimate knowledge of the poorer homes make them valuable investigators (*e.g.*, enquiries as to the varying war prices of coal, food, etc., as to drunkenness amongst women, inspection of munition lodgings, etc., etc.).

The Health Visitors always take a keen interest in such special enquiries in spite of these interfering somewhat with the daily routine visits, which in themselves are more than abundant.

## HEALTH VISITORS' WORK.

## PRIMARY VISITS :—

|   |        |
|---|--------|
| Systematic ... ..   | 1,334  |
| Births ... ..   | 11,651 |
| Ophthalmia Neonatorum ... ..                              | 197    |
| Diarrhoea Deaths ... ..                                   | 339    |
| Measles ... ..  | 7,246  |
| German Measles ... ..                                     | 604    |
| Chicken Pox ... ..  | 3,971  |
| Whooping Cough ... ..                                     | 1,742  |
| Mumps ... ..  | 4,072  |
| Vermin ... ..   | 79     |
| Ringworm ... ..   | 30     |
| Scabies ... ..  | 83     |
| Impetigo ... ..   | 229    |
| Blight ... ..   | 230    |
| Unclassified School Cases ... ..                          | 5,083  |
| Schools ... ..  | 630    |
| Reported Overcrowding ... ..                              | 12     |
| Other Visits (not included in above) ... ..               | 6,764  |
| Revisits ... ..   | 10,822 |
| Useless Visits ( <i>i.e.</i> , out, removed, etc.) ... .. | 8,606  |
| Total ... ..  | 63,724 |

The work carried on by the Infant Visitors at the different Maternity and Infant Welfare Centres and in the surrounding areas is described elsewhere (page 12), but the total number of primary visits paid by the Infant Visitors and Health Visitors *re* Births, Diarrhoea Deaths, and Ophthalmia Neonatorum is as follows :—

| Primary Visits.              | By Health Visitors. | By Infant Visitors. | Total. |
|------------------------------|---------------------|---------------------|--------|
| Births ... ..                | 11,651              | 6,510               | 11,161 |
| Diarrhoea Deaths ... ..      | 339                 | 236                 | 575    |
| Ophthalmia Neonatorum ... .. | 197                 | 127                 | 324    |

The cases of Ophthalmia Neonatorum were visited by the Health and Infant Visitors immediately on receipt of the notification, and re-visits were paid to each as long as it was considered necessary. In some instances the state of the eyes was such as to need constant supervision in order to ensure the treatment ordered by the hospital or private doctor being carried out.

## SCHOOL CHILDREN.

The Health Visitors come into personal contact with the school children when visiting the homes for Measles, Chicken Pox, Whooping Cough, Mumps, etc., and during the year paid over 630 visits to the schools, either in connection with these reported cases or at the especial request of the Head Teacher.

The inspection of verminous children in schools was discontinued this year by the Health Visitors and carried on by the School Nurses, and consequently no procedure could be taken by the former under the Children Act (Sec. 122), whereas last year 560 were compulsorily cleansed at Floodgate Street Cleansing Station.

The Temporary School Medical Officer in his Report for 1915 says :—"The actual cleansing of a child was only to take place if, within six months of the parents being fined for a child's non-attendance (on exclusion for vermin), such child was again found to be in a verminous condition. It is pleasant to report that this procedure was found to be necessary in one case only during the whole year." But the Health Visitors notice that the very bad, long standing, and difficult cases of verminous children eventually revert again to them when the School Teachers ask them to pay a home visit on the grounds that "The state of the child is such as to warrant the belief that it has been brought about by bad home conditions."

About 1,900 school children in connection with the Country Holiday Societies were again examined in July by the Health Visitors at two large inspections and at several smaller ones. The majority of these were pronounced clean and free from vermin, though the 300 children who, having lost their fathers during the war, were paid for by the "Daily Mail Fund" in June, did not reach the same standard of cleanliness as the others, who had been making special efforts for a long period to become clean and free from vermin.

During the continuance of the war considerable changes are observable in the condition of the homes. In many of the poorer ones, now that extra money is coming in, there has been a marked improvement in the furnishing of the rooms and in the clothing and feeding of the children. On the other hand, in the skilled artisan classes, where in many cases the men are away on service and at the same time the women are employed in factories, some neglect of the home has been caused, although not to the extent of prejudicing the health of the inmates. The question of the alleged increase of drinking amongst women was carefully considered by the Health Visitors and special evening visits were made to suspected homes, and a report of their evidence was compiled by myself and submitted to the Sub-Committee formed at the request of the Women's Advisory Committee to the Liquor Board of Control.

TABLE I.  
*Vital Statistics of Whole District during 1915 and previous Years.*

| Year.                              | Population<br>estimated to<br>middle of<br>each year. | BIRTHS.     |        |       | Total Deaths Registered<br>in the District. |       | Transferable Deaths.                               |   | NETT DEATHS BELONGING TO THE DISTRICT. |     |              |      |
|------------------------------------|---|-------------|--------|-------|---|-------|--|---|--|-----|--------------|------|
|                                    |   | Uncorrected |        | Nett. | Number.                                     | Rate. | Non-residents<br>registered<br>in the<br>District. | Residents not<br>registered in<br>the District. | Under 1 year of Age.                   |     | At all Ages. |      |
|                                    |   | Number.     | 4      |       |   |       |  |   | 5                                      | 6   | 7            | 8    |
| 1                                  | 2   | 3           | 4      | 5     | 6   | 7     | 8  | 9   | 10                                     | 11  | 12           | 13   |
| 1901                               | 760,989   | ?           | 23,866 | 31.4  | 14,089                                      | 18.6  | ?  | ?   | 4,205                                  | 176 | 13,290       | 17.5 |
| 1902                               | 768,757   | ?           | 24,246 | 31.2  | 12,973                                      | 16.7  | ?  | ?   | 3,503                                  | 144 | 12,650       | 16.3 |
| 1903                               | 776,604   | ?           | 23,956 | 30.9  | 12,433                                      | 16.0  | ?  | ?   | 3,525                                  | 147 | 12,224       | 15.8 |
| 1904                               | 784,532   | ?           | 24,260 | 31.0  | 14,047                                      | 17.9  | ?  | ?   | 4,346                                  | 179 | 13,882       | 17.7 |
| 1905                               | 792,540   | ?           | 22,939 | 29.0  | 12,132                                      | 15.3  | ?  | ?   | 3,224                                  | 141 | 11,948       | 15.1 |
| 1906                               | 800,631   | ?           | 23,484 | 29.4  | 12,983                                      | 16.2  | ?  | ?   | 3,682                                  | 157 | 12,737       | 15.9 |
| 1907                               | 808,803   | ?           | 23,233 | 28.8  | 12,567                                      | 15.6  | ?  | ?   | 3,084                                  | 133 | 12,356       | 15.3 |
| 1908                               | 817,060   | ?           | 23,986 | 29.1  | 12,782                                      | 15.5  | ?  | ?   | 3,124                                  | 130 | 12,596       | 15.3 |
| 1909                               | 825,400   | ?           | 22,555 | 27.4  | 12,573                                      | 15.3  | ?  | ?   | 2,727                                  | 121 | 12,398       | 15.1 |
| 1910                               | 833,826   | ?           | 22,288 | 26.8  | 11,200                                      | 13.5  | ?  | ?   | 2,570                                  | 115 | 11,001       | 13.2 |
| 1911                               | 842,337   | ?           | 21,975 | 26.1  | 12,760                                      | 15.2  | ?  | ?   | 3,298                                  | 150 | 12,623       | 15.0 |
| 1912                               | 850,947   | 22,186      | 22,168 | 26.1  | 12,131                                      | 14.3  | 338  | 212   | 2,470                                  | 111 | 12,005       | 14.1 |
| 1913                               | 859,644   | 23,858      | 23,812 | 27.3  | 13,116                                      | 15.0  | 362  | 208   | 3,070                                  | 129 | 12,962       | 14.9 |
| 1914                               | 882,534   | 23,268      | 23,207 | 26.4  | 13,115                                      | 14.9  | 346  | 257   | 2,839                                  | 122 | 13,026       | 14.8 |
| Averages for<br>years<br>1901-1914 | 814,615   | ?           | 23,284 | 28.7  | 12,779                                      | 15.7  | ?  | ?   | 3,262                                  | 140 | 12,550       | 15.4 |
| 1915                               | 891,234   | 21,217      | 21,187 | 23.7  | 12,907                                      | 14.5  | 448*   | 357   | 2,490                                  | 118 | 12,816       | 14.4 |

Rates in columns 5, 7, and 13 calculated per 1,000 of estimated population.  
Total population at all ages at Census of 1911, 840,202.      Area of District in acres, 43,537.      Number of inhabited buildings, 177,030.  
Average Number of Persons per house, 4.7.  
\* Including all members of the Military and Naval Forces, whether residents of Birmingham or not.



TABLE II.

*Causes of, and Ages at, Death during the Year ending January 1st, 1916.*

| CAUSE OF DEATH.                    | AGES. |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     | Males | Fe-<br>males. | Per-<br>sons |
|------------------------------------|-------|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|---------------|--------------|
|                                    | 0-    | 1-  | 2- | 3- | 4- | 5- | 10- | 15- | 20- | 25- | 35- | 45- | 55- | 65- | 75- | 85- |     |       |               |              |
| I.—GENERAL DISEASES.               |       |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |       |               |              |
| Enteric Fever ... ..               | —     | —   | —  | —  | —  | 1  | 1   | 1   | 1   | 1   | 1   | 1   | —   | —   | —   | —   | 7   | —     | 7             |              |
| Typhus Fever ... ..                | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Relapsing Fever ... ..             | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Malaria ... ..                     | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Smallpox—                          |       |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |       |               |              |
| (a) Vaccinated ... ..              | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| (b) Not Vaccinated ... ..          | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| (c) Doubtful ... ..                | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Measles ... ..                     | 100   | 161 | 78 | 33 | 17 | 29 | 1   | —   | 1   | —   | —   | —   | —   | —   | —   | —   | 215 | 205   | 420           |              |
| Scarlet Fever ... ..               | 3     | 5   | 3  | 11 | 6  | 22 | 7   | 4   | —   | —   | —   | —   | —   | —   | —   | —   | 35  | 26    | 61            |              |
| Whooping Cough ... ..              | 48    | 36  | 17 | 10 | 5  | 5  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | 45  | 76    | 121           |              |
| Diphtheria ... ..                  | 6     | 12  | 13 | 24 | 11 | 47 | 15  | 2   | —   | 1   | 2   | —   | —   | —   | —   | 1   | 68  | 66    | 134           |              |
| Croup ... ..                       | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | 1   | —   | —   | —   | 1   | —     | 1             |              |
| Influenza ... ..                   | 2     | 1   | 1  | 1  | —  | 3  | 2   | 3   | 2   | 5   | 11  | 24  | 30  | 35  | 18  | 8   | 83  | 63    | 146           |              |
| Miliary Fever ... ..               | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Asiatic Cholera ... ..             | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Cholera Nostras... ..              | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Dysentery ... ..                   | —     | —   | —  | —  | 1  | —  | —   | —   | —   | —   | 1   | —   | —   | —   | 1   | —   | 2   | 1     | 3             |              |
| Plague ... ..                      | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Yellow Fever ... ..                | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Leprosy ... ..                     | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Erysipelas ... ..                  | 6     | —   | —  | —  | —  | —  | —   | 1   | —   | 1   | 4   | 2   | 3   | 3   | 2   | 2   | 11  | 13    | 24            |              |
| Other Epidemic Diseases            | —     | 2   | —  | —  | —  | 1  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | 1   | 2     | 3             |              |
| Pyæmia, Septicæmia ... ..          | 2     | 1   | —  | —  | —  | 1  | —   | 2   | 3   | 1   | 3   | 4   | 1   | —   | 1   | —   | 13  | 6     | 19            |              |
| Glanders ... ..                    | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Anthrax (Splenic Fever)            | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Rabies ... ..                      | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Tetanus ... ..                     | —     | —   | —  | —  | —  | 1  | 1   | —   | —   | —   | —   | —   | —   | —   | —   | —   | 2   | —     | 2             |              |
| Mycoses ... ..                     | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Pellagra ... ..                    | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Beri-Beri... ..                    | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Pul. Tuberculosis (not acute)...   | 2     | 6   | 5  | 2  | 3  | 7  | 18  | 44  | 99  | 234 | 293 | 201 | 96  | 30  | 3   | 1   | 669 | 375   | 1044          |              |
| Acute Phthisis ... ..              | —     | —   | —  | —  | —  | 2  | 1   | 5   | 7   | 17  | 19  | 23  | 6   | —   | —   | —   | 47  | 33    | 80            |              |
| Acute Miliary Tuberculosis         | 3     | 1   | 2  | —  | —  | 4  | 2   | —   | —   | 1   | 4   | —   | —   | —   | —   | —   | 12  | 5     | 17            |              |
| Tuberculous Meningitis             | 17    | 14  | 10 | 8  | 6  | 7  | 2   | 2   | 3   | —   | —   | —   | 2   | —   | —   | —   | 43  | 28    | 71            |              |
| Tuberculosis (Periton. Intest.)    | 39    | 9   | 11 | 2  | 3  | 6  | 3   | 3   | 2   | 4   | 7   | 2   | —   | —   | —   | —   | 43  | 48    | 91            |              |
| Tuberculosis (Spinal Column)       | —     | 2   | 1  | —  | —  | —  | 1   | —   | 2   | 4   | 1   | 2   | 1   | —   | —   | —   | 8   | 6     | 14            |              |
| Tuberculosis (Joints) ... ..       | —     | —   | —  | —  | —  | —  | 1   | 1   | 2   | 1   | —   | 1   | 1   | 1   | —   | —   | 3   | 5     | 8             |              |
| Tuberculosis (other organs)        | 3     | —   | —  | —  | 1  | 1  | 2   | 1   | —   | 4   | —   | 3   | —   | —   | —   | —   | 9   | 6     | 15            |              |
| Disseminated Tuberculosis          | 6     | 7   | 2  | 2  | 2  | 3  | —   | 2   | 1   | 4   | 4   | 2   | 2   | —   | —   | —   | 21  | 16    | 37            |              |
| Rickets, Softening of Bones        | 10    | 10  | 3  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | 10  | 13    | 23            |              |
| Syphilis ... ..                    | 24    | 4   | 1  | —  | —  | —  | —   | 1   | 1   | 3   | —   | 1   | 2   | 2   | —   | —   | 21  | 18    | 39            |              |
| Other Venereal Diseases            | 5     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | 4   | 1     | 5             |              |
| Cancer (buccal cavity)...          | —     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | 5   | 19  | 24  | 13  | 4   | 1   | 59  | 8     | 67            |              |
| Cancer (stomach, liver, etc.) ...  | —     | —   | —  | —  | —  | —  | —   | —   | 1   | —   | 19  | 60  | 96  | 77  | 25  | 4   | 153 | 129   | 282           |              |
| Cancer (periton., intest., rectum) | —     | —   | —  | —  | —  | —  | —   | 1   | 2   | 3   | 12  | 29  | 51  | 58  | 24  | 2   | 96  | 86    | 182           |              |
| Cancer (female genital organs)     | —     | —   | —  | —  | —  | —  | —   | —   | —   | 5   | 18  | 35  | 24  | 15  | 6   | —   | —   | 103   | 103           |              |
| Cancer (breast) ... ..             | —     | —   | —  | —  | —  | —  | —   | —   | —   | 2   | 18  | 24  | 23  | 22  | 15  | 1   | —   | 105   | 105           |              |
| Cancer (skin) ... ..               | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 1   | 1   | 3   | 1   | —   | —   | 4   | 2     | 6             |              |
| Cancer (other organs) ... ..       | —     | —   | 1  | —  | —  | 1  | 2   | 3   | 3   | 4   | 15  | 36  | 34  | 32  | 9   | —   | 87  | 53    | 140           |              |
| Other Tumours (undefined) ...      | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 2   | 3   | 2   | —   | 1   | —   | 5   | 3     | 8             |              |
| Rheumatic Fever ... ..             | —     | —   | —  | —  | 3  | 7  | 8   | 3   | 5   | 7   | 4   | 3   | 1   | 2   | —   | —   | 23  | 20    | 43            |              |
| Ch.Rheumatism, Osteo-Arthritis     | —     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | 1   | 8   | 7   | 11  | 6   | —   | 13  | 21    | 34            |              |
| Gout ... ..                        | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | 4   | 6   | 4   | 1   | 10  | 5     | 15            |              |
| Scurvy ... ..                      | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |              |
| Diabetes ... ..                    | —     | —   | —  | 1  | —  | —  | 4   | 3   | 8   | 7   | 12  | 8   | 27  | 23  | 9   | —   | 56  | 46    | 102           |              |

TABLE II.—*continued.*

| CAUSE OF DEATH.                      | AGES. |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     | Males | Fe-<br>males | Per-<br>sons. |
|--------------------------------------|-------|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|--------------|---------------|
|                                      | 0-    | 1-  | 2- | 3- | 4- | 5- | 10- | 15- | 20- | 25- | 35- | 45- | 55- | 65- | 75- | 85- |       |              |               |
| Exophthalmic Goitre ...              | —     | —   | —  | —  | —  | —  | —   | —   | 3   | 4   | —   | 1   | 3   | —   | —   | —   | 2     | 9            | 11            |
| Addison's Disease ...                | —     | —   | —  | —  | —  | —  | —   | —   | —   | 2   | 1   | 1   | —   | —   | —   | —   | 1     | 3            | 4             |
| Leucocythæmia, Lymphad'oma ...       | —     | 1   | —  | —  | —  | —  | 1   | —   | 1   | 2   | 3   | 3   | —   | 1   | —   | —   | 4     | 8            | 12            |
| Anæmia, Chlorosis ...                | —     | 1   | —  | —  | —  | —  | 1   | 1   | 1   | 5   | 3   | 10  | 7   | 3   | 1   | —   | 18    | 15           | 33            |
| Other General Diseases ...           | 1     | —   | —  | —  | —  | —  | 1   | 1   | —   | 1   | —   | —   | —   | —   | 1   | —   | 1     | 4            | 5             |
| Alcoholism ...                       | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 3   | 2   | 1   | —   | —   | —   | 4     | 2            | 6             |
| Chronic Lead Poisoning ...           | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | 1   | 1   | —   | —   | —   | 2     | —            | 2             |
| Other Poisonings (occupational) ...  | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —            | —             |
| Ditto do. (not occupational) ...     | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | 1   | —   | —   | —   | —   | 1     | —            | 1             |
| II.—NERVOUS SYSTEM.                  |       |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |       |              |               |
| Encephalitis ...                     | 1     | —   | —  | —  | —  | 1  | 1   | —   | —   | 3   | 1   | 1   | —   | —   | —   | —   | 5     | 3            | 8             |
| Cerebro-Spinal Fever ...             | 12    | 5   | 3  | —  | 4  | 4  | 1   | —   | 2   | 6   | —   | 2   | 1   | —   | —   | —   | 24    | 16           | 40            |
| Meningitis (other forms) ...         | 33    | 23  | 8  | 6  | 6  | 14 | 3   | 2   | —   | —   | 7   | 2   | 2   | —   | —   | —   | 48    | 58           | 106           |
| Locomotor Ataxy ...                  | —     | —   | —  | —  | —  | —  | —   | —   | —   | 2   | 5   | 5   | 3   | 6   | —   | —   | 18    | 3            | 21            |
| Acute Poliomyelitis ...              | 2     | —   | —  | —  | —  | —  | —   | 1   | —   | —   | —   | —   | —   | —   | —   | —   | 1     | 2            | 3             |
| Other Dis., Spinal Cord ...          | —     | —   | —  | —  | —  | —  | 1   | 2   | —   | 3   | 7   | 9   | 11  | 9   | 4   | —   | 24    | 22           | 46            |
| Cerebral Hæmorrhage, Apoplexy ...    | —     | —   | —  | —  | —  | 1  | —   | 1   | 2   | 5   | 29  | 73  | 131 | 172 | 132 | 13  | 263   | 296          | 559           |
| Softening of Brain ...               | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 1   | —   | 3   | 8   | 3   | 1   | 5     | 11           | 16            |
| Paralysis (no specified cause) ...   | —     | 1   | —  | —  | —  | —  | 1   | 1   | —   | —   | —   | 8   | 16  | 21  | 10  | 2   | 31    | 29           | 60            |
| General Paralysis of Insane ...      | —     | —   | —  | —  | —  | —  | —   | 1   | 1   | 5   | 25  | 16  | 6   | 2   | 1   | —   | 50    | 7            | 57            |
| Other Mental Alienation ...          | —     | —   | —  | —  | —  | 1  | —   | —   | —   | —   | 4   | 2   | 3   | 3   | —   | —   | 5     | 8            | 13            |
| Epilepsy ...                         | —     | —   | —  | —  | —  | 5  | 5   | 3   | 8   | 8   | 7   | 12  | 9   | 6   | 3   | —   | 31    | 35           | 66            |
| Convulsions (5 and over) ...         | —     | —   | —  | —  | —  | 1  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | 1            | 1             |
| Convulsions (under 5) ...            | 117   | 28  | 5  | 3  | 1  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | 85    | 69           | 154           |
| Chorea ...                           | —     | —   | —  | —  | —  | 1  | —   | 2   | 1   | —   | —   | —   | —   | —   | —   | —   | —     | 4            | 4             |
| Hysteria, Neuralgia, Neuritis ...    | —     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | 9   | 6   | 4   | 5   | —   | —   | 6     | 19           | 25            |
| Other Dis. of Nervous System ...     | 2     | —   | —  | 2  | —  | 3  | 2   | 3   | 4   | 4   | 8   | 6   | 9   | 4   | 1   | —   | 24    | 24           | 48            |
| Diseases of Eyes and Annexa ...      | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —            | —             |
| Mastoid Disease ...                  | 2     | 1   | —  | —  | —  | —  | —   | —   | 2   | —   | —   | —   | —   | 1   | —   | —   | 3     | 3            | 6             |
| Other Diseases of Ears ...           | 2     | 1   | 1  | —  | —  | 3  | 4   | 2   | 1   | —   | —   | 2   | —   | —   | —   | —   | 7     | 9            | 16            |
| III.—CIRCULATORY SYSTEM.             |       |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |       |              |               |
| Pericarditis ...                     | —     | 1   | 1  | —  | —  | 2  | 1   | —   | 1   | —   | 3   | 1   | 1   | 2   | —   | —   | 7     | 6            | 13            |
| Acute Endocarditis ...               | 2     | 1   | 1  | —  | —  | 3  | 2   | 4   | 3   | 10  | 3   | 13  | 6   | —   | —   | —   | 22    | 26           | 48            |
| Valvular Disease ...                 | 1     | —   | —  | 1  | —  | 4  | 16  | 21  | 12  | 40  | 48  | 74  | 91  | 88  | 36  | 6   | 195   | 243          | 438           |
| Fatty Degeneration of Heart ...      | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 6   | 4   | 8   | 18  | 7   | —   | 23    | 20           | 43            |
| Other Organic Diseases of Heart ...  | 1     | —   | 1  | —  | 1  | 4  | 9   | 10  | 13  | 19  | 50  | 89  | 163 | 248 | 144 | 23  | 372   | 403          | 775           |
| Angina Pectoris ...                  | —     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | 2   | 3   | 4   | 8   | 3   | —   | 14    | 7            | 21            |
| Aneurysm ...                         | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 7   | 5   | 4   | 3   | —   | —   | 17    | 2            | 19            |
| Arterio Sclerosis ...                | —     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | 1   | 8   | 30  | 56  | 31  | 8   | 77    | 58           | 135           |
| Other Diseases of Arteries ...       | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | 2   | 1   | 1   | 2     | 2            | 4             |
| Cer. Embolism, Thrombosis ...        | —     | —   | —  | —  | —  | —  | —   | —   | 1   | 1   | 5   | 12  | 25  | 33  | 21  | 3   | 43    | 58           | 101           |
| Other Embolism and Throm. ...        | 1     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | —   | 1   | 1   | —   | 1   | —   | 3     | 2            | 5             |
| Diseases of Veins ...                | —     | —   | —  | —  | —  | —  | —   | —   | 1   | —   | 1   | 2   | 2   | —   | —   | —   | 2     | 4            | 6             |
| Status Lymphaticus ...               | 2     | —   | —  | —  | —  | —  | 1   | —   | —   | —   | —   | 1   | —   | —   | —   | —   | 3     | 1            | 4             |
| Other Dis. of Lymphatic System ...   | —     | —   | 1  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | 1            | 1             |
| Other Dis. of Circulatory System ... | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | 1   | —   | —   | —     | 1            | 1             |
| IV.—RESPIRATORY SYSTEM.              |       |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |       |              |               |
| Diseases of Nasal Fossæ ...          | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —            | —             |
| Diseases of Larynx ...               | 4     | 2   | 3  | 1  | 2  | 2  | 2   | —   | —   | —   | —   | 1   | 2   | 1   | 1   | —   | 12    | 9            | 21            |
| Diseases of Thyroid Body ...         | —     | —   | —  | —  | —  | —  | —   | 3   | —   | —   | —   | 1   | 1   | —   | —   | —   | 3     | 2            | 5             |
| Bronchitis ...                       | 184   | 67  | 9  | 3  | 4  | 8  | 3   | 2   | 3   | 13  | 35  | 75  | 202 | 337 | 225 | 49  | 597   | 622          | 1219          |
| Broncho-pneumonia ...                | 195   | 151 | 48 | 16 | 7  | 12 | 4   | 1   | 3   | 3   | 9   | 14  | 20  | 20  | 21  | 3   | 281   | 246          | 527           |
| Lobar Pneumonia ...                  | 14    | 19  | 9  | 4  | 1  | 8  | 6   | 9   | 5   | 34  | 39  | 40  | 36  | 26  | 12  | 2   | 170   | 94           | 264           |
| Pneumonia (type not stated) ...      | 49    | 39  | 12 | 8  | 6  | 8  | 8   | 1   | 9   | 24  | 36  | 48  | 41  | 41  | 16  | 3   | 202   | 147          | 349           |
| Pleurisy ...                         | 2     | —   | 2  | 2  | —  | 1  | —   | 1   | 2   | 4   | 1   | 4   | 2   | 8   | 4   | —   | 18    | 15           | 33            |
| Pul. Cong., Pul. Apoplexy ...        | 4     | —   | 2  | —  | —  | 1  | —   | —   | 1   | 1   | 1   | —   | 3   | 6   | 7   | 2   | 12    | 16           | 28            |
| Gangrene of Lung ...                 | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | 1   | 1   | —   | —   | —   | 1     | 1            | 2             |



TABLE II.—*continued.*

| CAUSE OF DEATH.                  | AGES. |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     | Males | Fe-<br>males. | Per-<br>sons. |
|----------------------------------|-------|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|---------------|---------------|
|                                  | 0-    | 1-  | 2- | 3- | 4- | 5- | 10- | 15- | 20- | 25- | 35- | 45- | 55- | 65- | 75- | 85- |     |       |               |               |
| Asthma ... ..                    | —     | —   | —  | 1  | —  | —  | —   | —   | —   | 1   | 1   | 6   | 9   | 10  | 3   | —   | 16  | 15    | 31            |               |
| Pulmonary Emphysema ...          | —     | —   | —  | —  | —  | —  | —   | 1   | —   | 1   | —   | 2   | 6   | 3   | 3   | 2   | 14  | 4     | 18            |               |
| Fibroid Disease of Lung ...      | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | 1   | —   | 1   | —   | —   | 1   | 1     | 2             |               |
| Other Dis. of Respiratory System | —     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | 2   | 2   | 2   | —   | —   | —   | 7   | —     | 7             |               |
| V.—DIGESTIVE SYSTEM.             |       |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |       |               |               |
| Diseases of Teeth and Gums ...   | 7     | 2   | —  | —  | —  | —  | —   | 1   | —   | —   | 1   | —   | 1   | —   | —   | —   | 8   | 4     | 12            |               |
| Other Dis. of Mouth and Annexa   | 4     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | 4   | —     | 4             |               |
| Diseases of Pharynx, Tonsillitis | —     | 2   | —  | 1  | —  | —  | —   | —   | —   | —   | 1   | 2   | —   | —   | —   | —   | 3   | 3     | 6             |               |
| Diseases of the Œsophagus ...    | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | 2   | —   | —   | —   | 2   | —     | 2             |               |
| Perforating Ulcer of Stomach ... | —     | —   | —  | —  | —  | —  | 2   | —   | 3   | 10  | 13  | 7   | 10  | 1   | 1   | —   | 31  | 16    | 47            |               |
| Inflammation of Stomach ...      | 54    | 11  | 2  | 2  | —  | —  | 1   | —   | —   | 1   | 2   | 3   | 4   | 6   | 7   | 3   | 57  | 39    | 96            |               |
| Other Diseases of Stomach ...    | 1     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | —   | 1   | 2   | 3   | 3   | —   | 6   | 5     | 11            |               |
| Diarrhœa, Enteritis ...          | 479   | 100 | 15 | 7  | 5  | 8  | —   | —   | 4   | 3   | 10  | 8   | 12  | 17  | 15  | 1   | 370 | 314   | 684           |               |
| Ankylostomiasis ...              | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |               |
| Other Intestinal Parasites ...   | —     | —   | —  | —  | —  | 1  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | 1   | —     | 1             |               |
| Appendicitis ... ..              | —     | —   | —  | 1  | —  | 11 | 10  | 6   | 6   | 9   | 11  | 3   | 6   | 1   | —   | —   | 31  | 33    | 64            |               |
| Hernia ... ..                    | 2     | 1   | —  | —  | —  | —  | —   | —   | —   | —   | 2   | 9   | 7   | 9   | 5   | 1   | 14  | 22    | 36            |               |
| Intestinal Obstruction ...       | 9     | 1   | 1  | —  | —  | 1  | 1   | —   | —   | 1   | 5   | 3   | 4   | 9   | 4   | 1   | 20  | 20    | 40            |               |
| Other Diseases of Intestines ... | —     | —   | —  | —  | 1  | —  | —   | —   | 1   | —   | —   | —   | 1   | 2   | —   | —   | 4   | 1     | 5             |               |
| Acute Yellow Atrophy of Liver    | —     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | —   | —   | —   | —   | —   | —   | —   | 1     | 1             |               |
| Hydatid of Liver ...             | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |               |
| Cirrhosis of Liver ...           | —     | —   | —  | —  | —  | —  | 1   | —   | —   | 2   | 10  | 31  | 24  | 6   | 4   | —   | 42  | 36    | 78            |               |
| Biliary Calculi ... ..           | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 2   | 3   | 6   | 4   | 4   | —   | 6   | 13    | 19            |               |
| Other Diseases of Liver ...      | 3     | —   | 1  | —  | 1  | —  | —   | —   | —   | 1   | 4   | 6   | 7   | 6   | 2   | —   | 10  | 21    | 31            |               |
| Diseases of Spleen ...           | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | 1   | —   | 1   | —   | 1   | 1     | 2             |               |
| Peritonitis (cause unstated) ... | 3     | —   | 1  | 1  | 1  | 2  | —   | 1   | —   | 2   | 3   | 2   | 2   | 3   | 1   | —   | 13  | 9     | 22            |               |
| Other Dis. of Digestive System   | —     | —   | —  | —  | —  | 1  | —   | —   | —   | 1   | 1   | —   | 3   | 1   | —   | —   | 5   | 2     | 7             |               |
| VI.—GENITO-URINARY SYSTEM.       |       |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |       |               |               |
| Acute Nephritis ... ..           | 1     | 3   | 2  | 2  | 2  | 1  | —   | —   | 3   | 5   | 3   | 3   | 3   | 2   | —   | —   | 18  | 12    | 30            |               |
| Bright's Disease ... ..          | 1     | 3   | —  | —  | 1  | 4  | 4   | 6   | 2   | 10  | 23  | 61  | 84  | 75  | 18  | 4   | 168 | 128   | 296           |               |
| Chyluria ... ..                  | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |               |
| Other Dis. of Kidney & Annexa    | —     | 1   | 1  | —  | —  | —  | —   | —   | —   | 1   | 2   | 2   | 3   | 2   | 1   | —   | 7   | 6     | 13            |               |
| Calculi of Urinary Passages ...  | —     | —   | —  | —  | —  | 1  | —   | —   | —   | —   | 1   | 1   | 2   | 3   | —   | —   | 6   | 2     | 8             |               |
| Diseases of Bladder ... ..       | 1     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | —   | 2   | 3   | 6   | 4   | 2   | 14  | 5     | 19            |               |
| Diseases of Urethra, etc. ...    | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 3   | 2   | 2   | 2   | —   | —   | 9   | —     | 9             |               |
| Diseases of Prostate ... ..      | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | 5   | 10  | 11  | 1   | 27  | —     | 27            |               |
| Diseases of Male Genital Organs  | 1     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | 1   | —     | 1             |               |
| Uterine Hæmorrhage ... ..        | —     | —   | —  | —  | —  | —  | —   | —   | 1   | —   | —   | 1   | —   | —   | —   | —   | —   | 2     | 2             |               |
| Uterine Tumour ... ..            | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 1   | 1   | 1   | 1   | —   | —   | —   | 4     | 4             |               |
| Other Diseases of Uterus ...     | —     | —   | —  | —  | —  | —  | —   | —   | —   | 3   | 1   | —   | —   | 1   | —   | —   | —   | 5     | 5             |               |
| Ovarian Cyst, Tumour ...         | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | 1   | 1   | 1   | —   | 1   | —   | —   | 4     | 4             |               |
| Other Dis. of Female Organs ...  | —     | —   | —  | —  | —  | —  | —   | —   | —   | 3   | 2   | 1   | —   | —   | —   | —   | —   | 6     | 6             |               |
| Diseases of Breast ... ..        | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |               |
| VII.—THE PUERPERAL STATE.        |       |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |       |               |               |
| Accidents of Pregnancy ...       | —     | —   | —  | —  | —  | —  | —   | —   | 1   | 4   | 1   | —   | —   | —   | —   | —   | —   | 6     | 6             |               |
| Puerperal Hæmorrhage ...         | —     | —   | —  | —  | —  | —  | —   | —   | 1   | 2   | 6   | 1   | —   | —   | —   | —   | —   | 10    | 10            |               |
| Other Accidents of Childbirth... | —     | —   | —  | —  | —  | —  | —   | —   | —   | 2   | 6   | —   | —   | —   | —   | —   | —   | 8     | 8             |               |
| Puerperal Fever ... ..           | —     | —   | —  | —  | —  | —  | —   | 1   | 9   | 14  | 11  | —   | —   | —   | —   | —   | —   | 35    | 35            |               |
| Puerperal Alb'ria & Convulsions  | —     | —   | —  | —  | —  | —  | —   | —   | 1   | 7   | 2   | —   | —   | —   | —   | —   | —   | 10    | 10            |               |
| Phleg. Dolens, Embolism ...      | —     | —   | —  | —  | —  | —  | —   | —   | 1   | 1   | 1   | —   | —   | —   | —   | —   | —   | 3     | 3             |               |
| Puerperal Insanity ... ..        | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —     | —             |               |
| Puerperal Diseases of Breast ... | —     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | —   | —   | —   | —   | —   | —   | —   | 1     | 1             |               |
| VIII.—SKIN & CELLULAR TISSUE.    |       |     |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |       |               |               |
| Senile Gangrene ... ..           | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | 3   | 9   | 14  | 2   | 14  | 14    | 28            |               |
| Gangrene (other types)...        | 1     | 1   | —  | —  | 2  | 1  | 1   | —   | —   | —   | 1   | —   | 5   | —   | —   | —   | 7   | 5     | 12            |               |
| Carbuncle, Boil ... ..           | —     | —   | —  | —  | —  | —  | —   | —   | —   | —   | —   | —   | 1   | —   | 1   | —   | 2   | —     | 2             |               |
| Phlegmon, Acute Abscess ...      | 3     | —   | —  | —  | —  | —  | —   | —   | —   | 1   | 4   | 3   | 1   | 4   | —   | —   | 8   | 8     | 16            |               |
| Dis. of Integumentary System     | 9     | 1   | —  | —  | —  | —  | —   | —   | —   | —   | —   | 3   | 1   | 3   | 1   | —   | 10  | 8     | 18            |               |



TABLE II.—continued.

| CAUSE OF DEATH.                     | AGES. |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     | Males | Fe-<br>males. | Per-<br>sons. |
|-------------------------------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|-----|-------|---------------|---------------|
|                                     | 0-    | 1-  | 2-  | 3-  | 4-  | 5-  | 10- | 15- | 20- | 25- | 35-  | 45-  | 55-  | 65-  | 75-  | 85- |       |               |               |
| IX.—BONES AND ORGANS OF LOCOMOTION. |       |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |       |               |               |
| Diseases of Bones ... ..            | 4     | —   | —   | —   | —   | 3   | 2   | 2   | 1   | —   | 1    | —    | 2    | 1    | 1    | —   | 10    | 7             | 17            |
| Diseases of Joints ... ..           | 1     | —   | —   | —   | —   | —   | —   | —   | —   | 1   | 1    | —    | —    | —    | —    | —   | 3     | —             | 3             |
| Amputations ... ..                  | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | —     | —             | —             |
| Other Dis. of Locomotor System      | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | —     | —             | —             |
| X.—MALFORMATIONS.                   |       |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |       |               |               |
| Congenital Malformations ...        | 82    | 6   | 2   | 2   | 1   | 4   | 1   | 2   | 2   | —   | —    | 2    | —    | —    | —    | —   | 57    | 47            | 104           |
| XI.—DISEASES OF EARLY INFANCY.      |       |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |       |               |               |
| Premature Birth ... ..              | 401   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | 217   | 184           | 401           |
| Infantile Debility, Icterus, etc.   | 359   | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | 201   | 158           | 359           |
| Other Diseases of early infancy     | 50    | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | 30    | 20            | 50            |
| Lack of Care (under 3 months)       | 15    | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | 9     | 6             | 15            |
| XII.—OLD AGE.                       |       |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |       |               |               |
| Old Age ... ..                      | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | 6    | 131  | 382  | 118 | 256   | 381           | 637           |
| XIII.—EXTERNAL CAUSES.              |       |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |       |               |               |
| Suicide—                            |       |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |       |               |               |
| By Poison ... ..                    | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | 5    | —    | —    | —    | —   | 2     | 3             | 5             |
| By Asphyxia ... ..                  | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | 1    | —    | 1    | —    | —   | 1     | 1             | 2             |
| By Hanging, Strangulation...        | —     | —   | —   | —   | —   | —   | —   | —   | —   | 1   | 1    | 6    | 2    | 2    | —    | —   | 8     | 4             | 12            |
| By Drowning ... ..                  | —     | —   | —   | —   | —   | —   | —   | —   | 1   | —   | 3    | 1    | 3    | —    | —    | —   | 5     | 3             | 8             |
| By Firearms ... ..                  | —     | —   | —   | —   | —   | —   | —   | —   | 1   | —   | —    | 1    | 1    | —    | —    | —   | 3     | —             | 3             |
| By Cutting or Piercing ... ..       | —     | —   | —   | —   | —   | —   | —   | —   | —   | 3   | 2    | 2    | 2    | 3    | 1    | —   | 12    | 1             | 13            |
| By Jumping from high place          | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | 1    | 1    | —    | —    | —   | 2     | —             | 2             |
| By Crushing ... ..                  | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | 1    | —    | —    | —    | —    | —   | 1     | —             | 1             |
| Other Suicides ... ..               | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | 1    | —    | —    | —    | —    | —   | 1     | —             | 1             |
| Poisoning by Food ... ..            | —     | —   | —   | —   | —   | —   | —   | —   | —   | 1   | —    | —    | —    | —    | —    | —   | —     | 1             | 1             |
| Other Acute Poisonings ... ..       | —     | 2   | 1   | 1   | —   | —   | —   | —   | —   | —   | —    | —    | 1    | —    | —    | —   | 2     | 3             | 5             |
| Conflagration ... ..                | —     | —   | —   | —   | 1   | —   | —   | —   | —   | —   | —    | —    | —    | —    | 1    | —   | 2     | —             | 2             |
| Burns (conflagration excepted)      | —     | 7   | 9   | 14  | 4   | 20  | 4   | 1   | —   | 6   | 2    | 1    | 2    | 2    | 5    | —   | 35    | 42            | 77            |
| Deleterious Gases, Suffocation      | 82    | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | 3    | —    | 1    | —   | 41    | 45            | 86            |
| Accidental Drowning ... ..          | 1     | 1   | —   | —   | —   | 9   | 3   | 2   | 1   | 3   | 4    | 1    | 4    | —    | —    | —   | 18    | 11            | 29            |
| Injury—                             |       |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |       |               |               |
| By Firearms ... ..                  | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | 1    | —    | —    | —    | —   | 1     | —             | 1             |
| By Cutting or Piercing ... ..       | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | 1    | —    | —    | —    | —    | —   | —     | 1             | 1             |
| By Fall ... ..                      | 1     | 2   | 1   | —   | 1   | —   | —   | 1   | —   | 1   | 7    | 9    | 16   | 17   | 12   | 3   | 40    | 31            | 71            |
| In Mines and Quarries ... ..        | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | —     | —             | —             |
| By Machines ... ..                  | —     | —   | —   | —   | —   | —   | 1   | 2   | —   | 2   | 1    | —    | 1    | —    | —    | —   | 6     | 1             | 7             |
| By Other Crushing ... ..            | —     | 1   | 3   | —   | 5   | 13  | 8   | 2   | 2   | 6   | 12   | 16   | 13   | 10   | 3    | 2   | 70    | 26            | 96            |
| By Animals ... ..                   | —     | —   | —   | —   | —   | 2   | —   | —   | —   | —   | 1    | —    | —    | —    | —    | —   | 2     | 1             | 3             |
| Starvation ... ..                   | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | —     | —             | —             |
| Excessive Cold ... ..               | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | —     | —             | —             |
| Effects of Heat... ..               | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | —     | —             | —             |
| Lightning ... ..                    | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | —     | —             | —             |
| Electricity ... ..                  | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | 1    | —    | —    | —    | —    | —   | 1     | —             | 1             |
| Homicide by Firearms... ..          | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | 1    | —    | —    | —    | —    | —   | —     | 1             | 1             |
| Homicide by Cutting or Piercing     | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | —     | —             | —             |
| Homicide by other means ... ..      | 2     | —   | —   | —   | —   | 1   | —   | —   | —   | —   | 1    | —    | 1    | —    | —    | —   | 3     | 2             | 5             |
| Fractures (cause not specified)     | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | 2    | —    | —    | —   | 2     | —             | 2             |
| Other Violence ... ..               | 2     | —   | 1   | —   | —   | —   | —   | 1   | 1   | 1   | 1    | 4    | 2    | 1    | —    | —   | 10    | 4             | 14            |
| XIV.—ILL-DEFINED CAUSES.            |       |     |     |     |     |     |     |     |     |     |      |      |      |      |      |     |       |               |               |
| Dropsy ... ..                       | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | 1    | —    | —    | —   | 1     | —             | 1             |
| Syncope (1 year and under 70)       | 1     | —   | —   | —   | —   | —   | —   | —   | 2   | —   | 3    | 3    | 1    | 1    | —    | —   | 7     | 4             | 11            |
| Sudden Death (not defined) ...      | —     | 2   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | 1    | —    | —    | —   | 2     | 1             | 3             |
| Heart Failure (1 and under 70)      | 1     | —   | —   | —   | —   | 2   | 2   | —   | 2   | 3   | 8    | 17   | 30   | 17   | —    | —   | 47    | 35            | 82            |
| Other ill-defined causes ... ..     | 2     | 20  | 2   | —   | —   | 2   | —   | 1   | —   | —   | —    | —    | 1    | —    | —    | —   | 10    | 18            | 28            |
| Cause not specified ... ..          | —     | —   | —   | —   | —   | —   | —   | —   | —   | —   | —    | —    | —    | —    | —    | —   | —     | —             | —             |
| Totals ... ..                       | 2490  | 779 | 296 | 172 | 115 | 320 | 187 | 184 | 269 | 632 | 1007 | 1298 | 1616 | 1854 | 1321 | 276 | 6693  | 6123          | 12816         |

TABLE III.

Births and Deaths Registered in, or belonging to, each Ward during the Year ending January 1st, 1916.

| CAUSES OF DEATH.  | Acock's Green | All Saints' | Aston | Balsall Heath | Duddeston and Nechells | Edgbaston | Edrington (North) | Edrington (South) | Handsworth | Harborne | King's Norton | Ladywood | Lozells | Market Hall | Moseley and King's Heath | Northfield | Rotton Park | St. Bartholomew's | St. Martin's | St. Mary's | St. Paul's | Saltley | Sandwell | Selly Oak | Small Heath | Soho | Sparkbrook | Sparkhill | Washwood Heath | Yardley | Not Located | City  |     |
|---|---------------|-------------|-------|---------------|------------------------|-----------|-------------------|-------------------|------------|----------|---------------|----------|---------|-------------|--------------------------|------------|-------------|-------------------|--------------|------------|------------|---------|----------|-----------|-------------|------|------------|-----------|----------------|---------|-------------|-------|-----|
| Enteric Fever ...   | ...           | ...         | 1     | ...           | ...                    | ...       | ...               | ...               | ...        | ...      | 1             | ...      | ...     | ...         | ...                      | ...        | ...         | ...               | 1            | ...        | ...        | ...     | 1        | ...       | ...         | ...  | ...        | 3         | ...            | ...     | ...         | 7     |     |
| Small Pox ...   | ...           | ...         | ...   | ...           | ...                    | ...       | ...               | ...               | ...        | ...      | ...           | ...      | ...     | ...         | ...                      | ...        | ...         | ...               | ...          | ...        | ...        | ...     | ...      | ...       | ...         | ...  | ...        | ...       | ...            | ...     | ...         | ...   |     |
| Measles ...   | 6             | 34          | 7     | 6             | 22                     | 6         | ...               | 1                 | 4          | 8        | 5             | 18       | 11      | 10          | 10                       | ...        | 44          | 44                | 23           | 25         | 35         | 13      | 9        | 19        | 8           | 22   | 12         | 5         | 9              | ...     | ...         | ...   |     |
| Scarlet Fever ...   | 5             | 4           | 2     | 3             | 3                      | ...       | ...               | 1                 | 1          | 1        | 3             | 2        | 2       | 1           | 1                        | 2          | 1           | 1                 | 2            | ...        | 2          | 3       | 2        | 2         | 2           | 7    | 2          | 4         | ...            | ...     | ...         | ...   |     |
| Whooping Cough ...  | 2             | 2           | 4     | 12            | 6                      | 1         | 1                 | 1                 | ...        | ...      | ...           | 5        | 1       | 2           | 1                        | 3          | 3           | 17                | 7            | 6          | 13         | 8       | 1        | ...       | ...         | ...  | ...        | 13        | 3              | 1       | 2           | ...   | ... |
| Diphtheria, Croup ...                                       | 7             | 7           | 5     | 5             | 3                      | 1         | 5                 | 4                 | 3          | 1        | 5             | 7        | 6       | 1           | 1                        | 1          | 8           | 6                 | 13           | 6          | 7          | 5       | 1        | 7         | 5           | 2    | 4          | 1         | 6              | 1       | 1           | ...   | ... |
| Influenza ...   | 6             | 10          | 10    | 7             | 2                      | 12        | 2                 | 2                 | 3          | 4        | 3             | 5        | 9       | 4           | 5                        | 1          | 3           | 5                 | 6            | 6          | 3          | 1       | 1        | 4         | 3           | 9    | 5          | 3         | 4              | 4       | 4           | 146   | ... |
| Erysipelas ...  | 1             | 2           | ...   | 1             | ...                    | ...       | ...               | ...               | ...        | ...      | ...           | 2        | 4       | 1           | 1                        | ...        | ...         | 4                 | ...          | 2          | 1          | ...     | ...      | 2         | ...         | ...  | 1          | 1         | ...            | ...     | ...         | ...   | ... |
| Pulmonary Tuberculosis ...                                  | 26            | 71          | 48    | 43            | 65                     | 25        | 12                | 19                | 26         | 16       | 15            | 57       | 41      | 28          | 18                       | 6          | 51          | 68                | 77           | 96         | 71         | 33      | 11       | 27        | 35          | 26   | 43         | 16        | 37             | 14      | 20          | 1141  | ... |
| Tuberculous Meningitis ...                                  | ...           | 8           | 4     | 3             | 3                      | 1         | 2                 | 1                 | 2          | 1        | 3             | 5        | 6       | ...         | 3                        | 1          | 3           | 2                 | 8            | 1          | ...        | 2       | 1        | ...       | ...         | 2    | 1          | 4         | 2              | 1       | 1           | ...   | ... |
| Abdominal Tuberculosis ...                                  | 5             | 2           | 3     | 2             | 18                     | 4         | 3                 | ...               | 3          | 2        | ...           | 3        | 1       | 1           | 2                        | ...        | 5           | 4                 | 7            | 4          | 6          | 1       | 2        | ...       | 2           | 1    | 3          | 1         | 2              | 2       | ...         | ...   |     |
| Other Tuberculous Dis. ...                                  | 2             | 3           | 2     | 4             | 4                      | 1         | ...               | 1                 | ...        | 2        | 1             | 7        | 4       | 2           | ...                      | ...        | 6           | 3                 | 3            | 3          | 7          | 4       | 1        | 3         | 1           | 3    | ...        | ...       | ...            | 5       | 1           | ...   | ... |
| Cancer ...  | 21            | 35          | 40    | 50            | 37                     | 39        | 17                | 23                | 28         | 13       | 30            | 30       | 36      | 23          | 26                       | 6          | 38          | 48                | 56           | 41         | 28         | 29      | 12       | 18        | 23          | 21   | 41         | 29        | 26             | 9       | 12          | 885   | ... |
| Rheumatic Fever ...   | 1             | 2           | 1     | 1             | 4                      | 3         | 4                 | ...               | ...        | 1        | 1             | 2        | 1       | ...         | 2                        | ...        | 1           | 4                 | 1            | 1          | 1          | 1       | 1        | ...       | ...         | 3    | 1          | 2         | 1              | 2       | ...         | ...   | 43  |
| Cerebro-Spinal Fever... ..                                  | ...           | 6           | 2     | 1             | ...                    | 1         | 1                 | ...               | ...        | 1        | 3             | 1        | 3       | ...         | ...                      | 1          | 2           | 1                 | 5            | 3          | ...        | 2       | ...      | ...       | ...         | 1    | 1          | 1         | 3              | ...     | 1           | ...   | ... |
| Meningitis ...  | 5             | 7           | 10    | 3             | 8                      | 2         | 2                 | 1                 | 1          | 1        | ...           | 5        | 4       | ...         | 1                        | ...        | 9           | 5                 | 11           | 6          | 4          | 2       | 4        | 4         | 3           | 3    | 2          | 1         | 2              | ...     | ...         | ...   | 106 |
| Organic Dis. of Heart... ..                                 | 31            | 64          | 56    | 56            | 71                     | 44        | 19                | 20                | 33         | 17       | 15            | 43       | 52      | 27          | 42                       | 11         | 56          | 91                | 75           | 67         | 55         | 32      | 29       | 25        | 33          | 39   | 36         | 28        | 36             | 14      | 39          | 1256  | ... |
| Bronchitis ...  | 15            | 46          | 77    | 54            | 75                     | 32        | 18                | 6                 | 19         | 16       | 15            | 48       | 38      | 35          | 23                       | 7          | 56          | 103               | 114          | 77         | 64         | 30      | 21       | 22        | 30          | 35   | 40         | 22        | 51             | 13      | 17          | 1219  | ... |
| Pneumonia ...   | 34            | 55          | 54    | 43            | 82                     | 36        | 16                | 10                | 17         | 8        | 24            | 43       | 37      | 40          | 22                       | 8          | 50          | 81                | 80           | 78         | 63         | 26      | 13       | 21        | 28          | 35   | 46         | 11        | 37             | 24      | 18          | 1140  | ... |
| Other Respiratory Dis. ...                                  | 4             | 4           | 9     | 4             | 3                      | 2         | 1                 | 2                 | 1          | 7        | 5             | 4        | 4       | 3           | 4                        | 2          | 7           | 9                 | 11           | 5          | 8          | 3       | 4        | 7         | 6           | 5    | 8          | 4         | 3              | 3       | 5           | 147   | ... |
| Diarrhoea & Enteritis : ...                                 | ...           | ...         | ...   | ...           | ...                    | ...       | ...               | ...               | ...        | ...      | ...           | ...      | ...     | ...         | ...                      | ...        | ...         | ...               | ...          | ...        | ...        | ...     | ...      | ...       | ...         | ...  | ...        | ...       | ...            | ...     | ...         | ...   | ... |
| Under 2 years ...   | 12            | 27          | 42    | 15            | 51                     | 10        | 2                 | 4                 | 10         | 4        | 4             | 29       | 17      | 7           | ...                      | 2          | 25          | 50                | 56           | 88         | 46         | 13      | 4        | 9         | 6           | 9    | 14         | 1         | 18             | 1       | 3           | 579   | ... |
| Two years and over ...                                      | 2             | 6           | 6     | 6             | 4                      | 3         | 1                 | ...               | 3          | 3        | 1             | 3        | 1       | 2           | 1                        | ...        | 5           | 3                 | 2            | 10         | 6          | 4       | 2        | 3         | 2           | 5    | 7          | 1         | 8              | 2       | 3           | 105   | ... |
| Appendicitis, Typhlitis ...                                 | 4             | 6           | 3     | 4             | ...                    | 5         | ...               | 1                 | 2          | 1        | 2             | 3        | 2       | 1           | 2                        | 1          | 3           | 4                 | 1            | ...        | 1          | 2       | 3        | 2         | 1           | 2    | 2          | 4         | 1              | 1       | ...         | ...   | ... |
| Cirrhosis of Liver ...                                      | ...           | 3           | 1     | 4             | 5                      | 8         | 1                 | ...               | 4          | 1        | ...           | 1        | 5       | 4           | 1                        | ...        | 3           | 6                 | 9            | 1          | 2          | 2       | 5        | 1         | 2           | 3    | 4          | ...       | 1              | 1       | ...         | ...   | ... |
| Alcoholism ...  | ...           | ...         | ...   | ...           | ...                    | ...       | ...               | ...               | ...        | ...      | 1             | ...      | ...     | ...         | ...                      | ...        | ...         | 1                 | 1            | 2          | ...        | ...     | ...      | ...       | ...         | ...  | ...        | 1         | ...            | ...     | ...         | ...   | ... |
| Nephritis & Bright's Dis ...                                | 14            | 16          | 20    | 10            | 15                     | 10        | 10                | 5                 | 9          | 5        | 6             | 16       | 16      | 9           | 4                        | ...        | 17          | 22                | 22           | 19         | 13         | 9       | 4        | 5         | 8           | 7    | 10         | 9         | 4              | 5       | 7           | 326   | ... |
| Puerperal Fever ...   | ...           | 2           | ...   | 3             | 1                      | 1         | 1                 | 2                 | 2          | 1        | 1             | 2        | 1       | ...         | ...                      | ...        | 3           | 1                 | ...          | 1          | ...        | 2       | ...      | ...       | 3           | 2    | 1          | ...       | ...            | 2       | ...         | ...   | ... |
| Other Accidents & Diseases of Pregnancy and Parturition ... | 1             | 5           | 1     | 1             | 1                      | 2         | 1                 | ...               | ...        | ...      | 2             | 3        | 2       | ...         | 2                        | 1          | 1           | 2                 | 1            | 2          | 1          | 1       | ...      | 3         | 2           | 1    | 1          | 1         | 1              | ...     | ...         | ...   | 38  |
| Congenital Debility and Malformation, Premature Birth ...   | 21            | 46          | 50    | 26            | 80                     | 23        | 9                 | 8                 | 18         | 13       | 19            | 38       | 17      | 22          | 7                        | 8          | 37          | 68                | 56           | 54         | 48         | 23      | 19       | 19        | 23          | 19   | 28         | 9         | 37             | 7       | 12          | 864   | ... |
| Other Diseases peculiar to Infancy ...                      | ...           | 3           | 1     | 4             | 1                      | ...       | 2                 | 5                 | 3          | ...      | 1             | 3        | ...     | 1           | ...                      | 1          | 3           | 1                 | 2            | ...        | 3          | 1       | 1        | ...       | ...         | 2    | 1          | 1         | 9              | 1       | ...         | ...   | ... |
| Accidents or Negligence ...                                 | 7             | 14          | 14    | 10            | 21                     | 11        | 2                 | 5                 | 9          | 5        | 8             | 19       | 12      | 11          | 5                        | 5          | 27          | 37                | 30           | 37         | 22         | 16      | 4        | 13        | 6           | 12   | 15         | 2         | 14             | 2       | 7           | 402   | ... |
| Suicides... ..  | ...           | 5           | ...   | 1             | 3                      | 2         | 1                 | 1                 | 2          | ...      | 1             | ...      | 1       | 1           | 1                        | ...        | ...         | 2                 | 2            | 1          | 2          | 3       | 2        | 2         | ...         | 2    | 4          | 4         | 3              | ...     | ...         | ...   | ... |
| Other Defined Diseases ...                                  | 67            | 131         | 151   | 153           | 165                    | 118       | 52                | 52                | 85         | 46       | 49            | 107      | 130     | 63          | 75                       | 31         | 118         | 152               | 158          | 134        | 134        | 71      | 61       | 95        | 85          | 103  | 106        | 76        | 87             | 37      | 78          | 2970  | ... |
| Ill-defined Causes ...                                      | 3             | 4           | 3     | 7             | 13                     | 4         | 1                 | ...               | 3          | 2        | 4             | 7        | 5       | 6           | 2                        | 2          | 3           | 5                 | 11           | 11         | 4          | 6       | ...      | 4         | ...         | ...  | 6          | ...       | 6              | 2       | 1           | 125   | ... |
| TOTAL DEATHS ...  | 302           | 630         | 627   | 542           | 766                    | 407       | 188               | 175               | 291        | 184      | 228           | 518      | 469     | 305         | 262                      | 100        | 588         | 851               | 850          | 787        | 650        | 348     | 219      | 322       | 329         | 372  | 467        | 237       | 414            | 155     | 233         | 12816 | ... |
| DEATHS UNDER 1 YEAR ...                                     | 49            | 123         | 148   | 80            | 225                    | 45        | 30                | 24                | 45         | 26       | 40            | 99       | 76      | 50          | 26                       | 20         | 118         | 218               | 194          | 197        | 156        | 63      | 40       | 58        | 52          | 50   | 76         | 20        | 99             | 19      | 24          | 2490  | ... |
| BIRTHS ...  | 669           | 1142        | 1156  | 882           | 1428                   | 546       | 357               | 347               | 479        | 321      | 462           | 783      | 745     | 408         | 408                      | 163        | 1001        | 1212              | 1236         | 1054       | 919        | 735     | 377      | 620       | 608         | 545  | 875        | 366       | 804            | 337     | 202         | 21187 | ... |



TABLE IV.

Deaths under 1 year Registered in, or belonging to, each Ward during the Year ending January 1st, 1916.

| CAUSES OF DEATH.                |     | Acock's Green. | All Saints. | Aston. | Balsall Heath. | Duddeston and Nechells. | Edgbaston. | Erdington (North). | Erdington (South). | Handsworth. | Harborne. | King's Norton. | Ladywood. | Lozells. | Market Hall. | Moseley and King's Heath. | Northfield. | Rotton Park. | St. Bartholomew's. | St. Martin's. | St. Mary's. | St. Paul's. | Salley. | Sandwell. | Selly Oak. | Small Heath. | Soho. | Sparkbrook. | Sparkhill. | Washwood Heath. | Vardley. | Not Located. |      |     |
|---------------------------------|-----|----------------|-------------|--------|----------------|-------------------------|------------|--------------------|--------------------|-------------|-----------|----------------|-----------|----------|--------------|---------------------------|-------------|--------------|--------------------|---------------|-------------|-------------|---------|-----------|------------|--------------|-------|-------------|------------|-----------------|----------|--------------|------|-----|
| Small-pox                       | ... | ...            | ...         | ...    | ...            | ...                     | ...        | ...                | ...                | ...         | ...       | ...            | ...       | ...      | ...          | ...                       | ...         | ...          | ...                | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Chicken Pox                     | ... | ...            | ...         | ...    | ...            | ...                     | ...        | ...                | ...                | ...         | ...       | ...            | ...       | ...      | ...          | ...                       | ...         | ...          | ...                | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Measles                         | ... | 3              | 9           | ...    | 2              | 4                       | 1          | ...                | ...                | ...         | 1         | 1              | 3         | 4        | 1            | 6                         | ...         | 11           | 14                 | 4             | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  |     |
| Scarlet Fever                   | ... | ...            | ...         | ...    | 1              | ...                     | ...        | ...                | ...                | ...         | 2         | ...            | ...       | ...      | 2            | ...                       | 3           | ...          | 6                  | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  |     |
| Whooping Cough                  | ... | ...            | 1           | 2      | 1              | 3                       | 1          | 1                  | 1                  | ...         | ...       | ...            | ...       | ...      | ...          | ...                       | ...         | ...          | ...                | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Diphtheria and Croup            | ... | 1              | ...         | 1      | 2              | ...                     | ...        | ...                | ...                | ...         | ...       | ...            | ...       | ...      | ...          | ...                       | ...         | ...          | ...                | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Erysipelas                      | ... | ...            | ...         | ...    | ...            | ...                     | ...        | ...                | ...                | ...         | ...       | ...            | ...       | ...      | ...          | ...                       | ...         | ...          | ...                | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Tuberculous Meningitis          | ... | ...            | 3           | 1      | ...            | ...                     | ...        | ...                | ...                | ...         | ...       | 1              | 1         | 2        | ...          | 1                         | ...         | 1            | 2                  | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  |     |
| Abdominal Tuberculosis          | ... | 2              | ...         | 1      | ...            | 13                      | 1          | 2                  | ...                | ...         | 1         | ...            | 2         | ...      | ...          | ...                       | ...         | 2            | 2                  | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  |     |
| Other Tuberculous Diseases      | ... | ...            | 2           | ...    | ...            | ...                     | ...        | ...                | ...                | ...         | ...       | ...            | 2         | 1        | ...          | ...                       | ...         | 2            | 1                  | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  |     |
| Meningitis (not Tuberculous)    | ... | ...            | ...         | ...    | ...            | ...                     | ...        | ...                | ...                | ...         | ...       | ...            | 2         | ...      | ...          | ...                       | ...         | 2            | ...                | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  |     |
| Convulsions                     | ... | 2              | 2           | 5      | 1              | 5                       | ...        | 1                  | ...                | ...         | ...       | ...            | 2         | 3        | ...          | ...                       | ...         | 5            | 1                  | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  |     |
| Laryngitis                      | ... | 3              | 4           | 6      | 3              | 15                      | ...        | 3                  | ...                | ...         | 1         | ...            | 4         | 6        | 1            | 4                         | ...         | 1            | 12                 | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  |     |
| Bronchitis                      | ... | ...            | ...         | ...    | ...            | 1                       | ...        | ...                | ...                | ...         | ...       | ...            | ...       | 1        | ...          | ...                       | ...         | ...          | ...                | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Pneumonia (all forms)           | ... | 1              | 8           | 20     | 9              | 8                       | 3          | 4                  | ...                | 3           | 1         | 1              | 4         | 2        | 4            | 4                         | 1           | 5            | 21                 | 18            | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Diarrhoea                       | ... | 3              | 12          | 17     | 12             | 29                      | 4          | 4                  | ...                | 4           | 2         | 9              | 9         | 10       | 9            | 3                         | 3           | 11           | 21                 | 18            | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Enteritis                       | ... | ...            | 10          | 10     | 3              | 18                      | 1          | ...                | ...                | 6           | 2         | 1              | 5         | 4        | 2            | ...                       | 1           | 3            | 21                 | 18            | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Gastritis                       | ... | 8              | 22          | 23     | 11             | 26                      | 8          | 2                  | ...                | 4           | 2         | 3              | 18        | 11       | 4            | ...                       | 1           | 17           | 16                 | 55            | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Syphilis                        | ... | ...            | 1           | 4      | 1              | 5                       | 2          | 1                  | ...                | ...         | ...       | 2              | 1         | 2        | ...          | ...                       | ...         | 3            | 9                  | 4             | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Rickets                         | ... | ...            | 2           | ...    | ...            | 1                       | ...        | ...                | ...                | ...         | ...       | ...            | ...       | 1        | ...          | ...                       | ...         | 4            | 5                  | 1             | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Suffocation, Overlying          | ... | ...            | 1           | 1      | 2              | 2                       | ...        | ...                | ...                | ...         | ...       | ...            | ...       | ...      | ...          | ...                       | ...         | 4            | 5                  | 1             | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Injury at Birth                 | ... | ...            | 3           | ...    | ...            | 7                       | 1          | ...                | ...                | 3           | ...       | ...            | 2         | ...      | ...          | ...                       | ...         | 7            | 13                 | 1             | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Atelectasis                     | ... | ...            | 1           | ...    | 1              | ...                     | ...        | ...                | 2                  | ...         | ...       | ...            | 1         | ...      | 1            | ...                       | ...         | 2            | ...                | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Congenital Malformations        | ... | ...            | ...         | 1      | 2              | 1                       | ...        | 1                  | ...                | 3           | ...       | 1              | 2         | ...      | ...          | ...                       | 1           | ...          | 1                  | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Premature Birth                 | ... | 4              | 1           | 6      | ...            | 6                       | 2          | 2                  | 1                  | 1           | 1         | 2              | 3         | 2        | 2            | 1                         | ...         | 6            | 4                  | ...           | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Atrophy, Debility, and Marasmus | ... | 11             | 27          | 25     | 15             | 28                      | 11         | 7                  | 7                  | 8           | 7         | 11             | 14        | 10       | 8            | 1                         | 6           | 15           | 29                 | 25            | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| Other causes                    | ... | 6              | 17          | 17     | 8              | 43                      | 9          | ...                | ...                | 8           | 2         | 5              | 18        | 4        | 12           | 3                         | 2           | 13           | 31                 | 24            | ...         | ...         | ...     | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...      | ...          | ...  | ... |
| ALL CAUSES                      | ... | 49             | 123         | 148    | 80             | 225                     | 45         | 30                 | 24                 | 45          | 26        | 40             | 99        | 76       | 50           | 26                        | 20          | 118          | 218                | 194           | 197         | 156         | 63      | 40        | 58         | 52           | 50    | 76          | 20         | 99              | 19       | 24           | 2490 |     |



TABLE V.

*Cases of Infectious Disease notified during each week of the year 1915.*

| WEEK.   |           |    | Enteric Fever | Smallpox. | Scarlet Fever. | Diphtheria. | Erysipelas. | Pulmonary Tuberculosis. | Tubercular Meningitis. | Tuberculosis of Peritoneum and Intestines. | Tuberculosis of Spinal Column | Tuberculosis of Joints. | Tuberculosis of other Organs. | Disseminated Tuberculosis. | Cerebro-Spinal Fever. | Poliomyelitis | Puerperal Fever. | Ophthalmia Neonatorum. | Total. |      |
|---------|-----------|----|---------------|-----------|----------------|-------------|-------------|-------------------------|------------------------|--|-------------------------------|-------------------------|-------------------------------|----------------------------|-----------------------|---------------|------------------|------------------------|--------|------|
| Number. | Ending.   |    |               |           |                |             |             |                         |                        |  |                               |                         |                               |                            |                       |               |                  |                        |        |      |
|         | 1915.     |    |               |           |                |             |             |                         |                        |  |                               |                         |                               |                            |                       |               |                  |                        |        |      |
| 1       | January   | 9  | 1             | —         | 60             | 30          | 23          | 71                      | —                      | 3  | —                             | 2                       | 2                             | —                          | —                     | 1             | 7                | 4                      | 204    |      |
| 2       | "         | 16 | 1             | —         | 60             | 21          | 12          | 79                      | —                      | 2  | 1                             | —                       | 4                             | —                          | —                     | —             | 5                | 7                      | 192    |      |
| 3       | "         | 23 | 1             | —         | 53             | 25          | 17          | 70                      | —                      | 2  | —                             | 1                       | 1                             | 2                          | —                     | 1             | 3                | 5                      | 181    |      |
| 4       | "         | 30 | —             | —         | 58             | 21          | 21          | 62                      | 3                      | 3  | —                             | —                       | 4                             | 1                          | —                     | —             | 1                | 10                     | 184    |      |
| 5       | February  | 6  | —             | —         | 79             | 30          | 21          | 71                      | 2                      | 1  | —                             | 1                       | 9                             | 1                          | —                     | —             | 3                | 7                      | 225    |      |
| 6       | "         | 13 | —             | —         | 64             | 22          | 12          | 80                      | 1                      | 2  | 1                             | 1                       | 5                             | —                          | —                     | —             | 4                | 5                      | 197    |      |
| 7       | "         | 20 | 4             | —         | 61             | 23          | 12          | 71                      | —                      | 2  | —                             | —                       | 3                             | —                          | —                     | —             | 2                | 4                      | 182    |      |
| 8       | "         | 27 | 1             | —         | 54             | 37          | 4           | 78                      | 1                      | 4  | —                             | 2                       | 2                             | 1                          | —                     | —             | 1                | 8                      | 193    |      |
| 9       | March     | 6  | 1             | —         | 63             | 24          | 15          | 67                      | —                      | 1  | 2                             | 1                       | 3                             | 1                          | 1                     | —             | 2                | 6                      | 187    |      |
| 10      | "         | 13 | —             | —         | 56             | 24          | 6           | 77                      | 1                      | 3  | —                             | —                       | 1                             | —                          | 2                     | —             | 6                | 6                      | 182    |      |
| 11      | "         | 20 | —             | —         | 47             | 26          | 10          | 71                      | 1                      | 1  | —                             | 2                       | 19                            | —                          | —                     | —             | 1                | 10                     | 188    |      |
| 12      | "         | 27 | 2             | —         | 37             | 21          | 6           | 97                      | 1                      | 3  | 2                             | —                       | 15                            | 1                          | 4                     | 1             | 5                | 8                      | 203    |      |
| 13      | April     | 3  | —             | —         | 49             | 18          | 14          | 71                      | —                      | 1  | —                             | —                       | 6                             | 1                          | 5                     | —             | —                | 7                      | 172    |      |
| 14      | "         | 10 | —             | —         | 48             | 27          | 14          | 42                      | —                      | 3  | —                             | —                       | 4                             | 1                          | 3                     | —             | 4                | 6                      | 152    |      |
| 15      | "         | 17 | 1             | —         | 41             | 21          | 13          | 77                      | 1                      | 1  | 1                             | —                       | 6                             | 1                          | 3                     | —             | 2                | 10                     | 178    |      |
| 16      | "         | 24 | —             | —         | 50             | 20          | 8           | 63                      | 3                      | 2  | —                             | —                       | 7                             | —                          | 2                     | —             | 4                | 7                      | 166    |      |
| 17      | May       | 1  | 1             | —         | 67             | 25          | 16          | 57                      | —                      | 5  | —                             | —                       | 4                             | —                          | 4                     | 1             | 4                | 7                      | 191    |      |
| 18      | "         | 8  | —             | —         | 59             | 17          | 15          | 78                      | 2                      | 1  | —                             | —                       | 7                             | —                          | —                     | —             | 1                | 7                      | 187    |      |
| 19      | "         | 15 | —             | —         | 47             | 21          | 14          | 69                      | —                      | 4  | —                             | 2                       | 7                             | 3                          | —                     | —             | 3                | 7                      | 177    |      |
| 20      | "         | 22 | 1             | —         | 53             | 21          | 12          | 88                      | 1                      | 1  | —                             | —                       | 6                             | 1                          | 2                     | —             | —                | 3                      | 189    |      |
| 21      | "         | 29 | —             | —         | 39             | 21          | 12          | 55                      | —                      | 3  | 1                             | 2                       | 3                             | 1                          | 1                     | —             | 1                | 13                     | 152    |      |
| 22      | June      | 5  | —             | —         | 41             | 20          | 10          | 56                      | 1                      | 4  | —                             | —                       | 5                             | —                          | —                     | —             | 6                | 6                      | 149    |      |
| 23      | "         | 12 | 2             | —         | 50             | 14          | 14          | 50                      | 1                      | 1  | —                             | —                       | 4                             | —                          | 2                     | —             | 4                | 4                      | 146    |      |
| 24      | "         | 19 | 1             | —         | 60             | 20          | 15          | 61                      | —                      | 6  | 1                             | 1                       | 6                             | —                          | 1                     | —             | 3                | 4                      | 179    |      |
| 25      | "         | 26 | —             | —         | 49             | 18          | 16          | 72                      | 1                      | 6  | —                             | —                       | 4                             | 1                          | 1                     | —             | 4                | 7                      | 179    |      |
| 26      | July      | 3  | 1             | —         | 52             | 15          | 11          | 70                      | —                      | 3  | 1                             | —                       | 3                             | 2                          | 1                     | —             | 3                | 9                      | 171    |      |
| 27      | "         | 10 | 1             | —         | 67             | 23          | 14          | 63                      | 3                      | 2  | —                             | 1                       | 3                             | 2                          | 3                     | —             | 5                | 7                      | 194    |      |
| 28      | "         | 17 | —             | —         | 57             | 23          | 11          | 54                      | —                      | 2  | —                             | 1                       | 8                             | 1                          | 2                     | —             | 3                | 7                      | 169    |      |
| 29      | "         | 24 | —             | —         | 58             | 18          | 17          | 54                      | 1                      | 5  | 3                             | 3                       | 8                             | 1                          | 1                     | —             | 5                | 5                      | 179    |      |
| 30      | "         | 31 | —             | —         | 35             | 9           | 12          | 43                      | 2                      | 3  | —                             | 1                       | 2                             | 2                          | —                     | —             | —                | 6                      | 115    |      |
| 31      | August    | 7  | —             | —         | 51             | 9           | 9           | 28                      | 2                      | 1  | —                             | 2                       | 3                             | 1                          | 1                     | —             | 2                | 3                      | 112    |      |
| 32      | "         | 14 | —             | —         | 50             | 16          | 14          | 56                      | 1                      | 1  | —                             | —                       | 1                             | 1                          | 3                     | —             | 6                | 7                      | 156    |      |
| 33      | "         | 21 | 1             | —         | 42             | 15          | 10          | 46                      | 2                      | 3  | —                             | —                       | 2                             | —                          | —                     | —             | 2                | 3                      | 126    |      |
| 34      | "         | 28 | 1             | —         | 45             | 29          | 9           | 56                      | —                      | 1  | —                             | 2                       | 4                             | 2                          | 2                     | —             | 5                | 9                      | 165    |      |
| 35      | September | 4  | —             | —         | 59             | 16          | 14          | 32                      | —                      | 7  | —                             | —                       | 2                             | —                          | 1                     | —             | 2                | 5                      | 138    |      |
| 36      | "         | 11 | 1             | —         | 63             | 30          | 9           | 43                      | —                      | 1  | —                             | —                       | 8                             | —                          | —                     | —             | 6                | 13                     | 174    |      |
| 37      | "         | 18 | —             | —         | 61             | 26          | 17          | 41                      | 3                      | 1  | —                             | —                       | 2                             | —                          | 1                     | —             | 4                | 2                      | 158    |      |
| 38      | "         | 25 | —             | —         | 57             | 21          | 12          | 46                      | —                      | 4  | —                             | —                       | 4                             | —                          | —                     | 1             | 3                | 11                     | 159    |      |
| 39      | October   | 2  | 1             | —         | 79             | 23          | 22          | 35                      | —                      | 4  | —                             | —                       | 1                             | —                          | —                     | —             | 5                | 6                      | 176    |      |
| 40      | "         | 9  | 1             | —         | 94             | 17          | 19          | 49                      | 1                      | 5  | —                             | —                       | 1                             | —                          | 1                     | —             | 5                | 6                      | 199    |      |
| 41      | "         | 16 | —             | —         | 86             | 24          | 10          | 45                      | —                      | 2  | —                             | —                       | 7                             | —                          | 1                     | —             | 4                | 1                      | 180    |      |
| 42      | "         | 23 | 1             | —         | 81             | 26          | 16          | 41                      | —                      | 3  | —                             | —                       | 9                             | —                          | 1                     | —             | —                | 2                      | 180    |      |
| 43      | "         | 30 | —             | —         | 68             | 23          | 24          | 52                      | 1                      | 6  | —                             | —                       | —                             | —                          | —                     | —             | 2                | 7                      | 183    |      |
| 44      | November  | 6  | 2             | —         | 67             | 11          | 23          | 46                      | 1                      | 2  | 1                             | —                       | —                             | —                          | 1                     | —             | 1                | 4                      | 159    |      |
| 45      | "         | 13 | —             | —         | 73             | 20          | 9           | 60                      | 2                      | —  | —                             | 1                       | 9                             | —                          | —                     | —             | 5                | 5                      | 184    |      |
| 46      | "         | 20 | 1             | —         | 53             | 15          | 14          | 63                      | 2                      | 2  | —                             | 1                       | 3                             | —                          | —                     | 1             | 5                | 9                      | 169    |      |
| 47      | "         | 27 | 1             | —         | 64             | 10          | 19          | 48                      | 1                      | 4  | 2                             | —                       | 5                             | —                          | —                     | —             | 2                | 1                      | 157    |      |
| 48      | December  | 4  | —             | —         | 63             | 14          | 15          | 37                      | 1                      | —  | 1                             | —                       | 4                             | —                          | —                     | —             | 2                | 6                      | 143    |      |
| 49      | "         | 11 | —             | —         | 54             | 14          | 19          | 49                      | —                      | —  | —                             | 1                       | 2                             | —                          | 1                     | —             | 2                | 4                      | 146    |      |
| 50      | "         | 18 | —             | —         | 59             | 22          | 21          | 60                      | 1                      | 1  | —                             | 1                       | 7                             | —                          | —                     | 1             | 1                | 4                      | 178    |      |
| 51      | "         | 25 | 1             | —         | 49             | 16          | 12          | 38                      | 1                      | 1  | —                             | —                       | 4                             | 1                          | —                     | —             | —                | 4                      | 127    |      |
|         | 1916.     |    |               |           |                |             |             |                         |                        |  |                               |                         |                               |                            |                       |               |                  |                        |        |      |
| 52      | January   | 1  | 1             | —         | 46             | 20          | 14          | 39                      | —                      | —  | —                             | —                       | 3                             | —                          | 1                     | 1             | 5                | 10                     | 140    |      |
| Total   |           |    | ...           | 31        | —              | 2978        | 1072        | 728                     | 3027                   | 45   | 129                           | 17                      | 29                            | 242                        | 29                    | 52            | 8                | 161                    | 324    | 8872 |

TABLE VI.

*Cases of Infectious Disease notified during the Year 1915. Classified according to ages.*

| DISEASE.                                      | AGES. |     |     |     |     |      |      |     |     |      |     |     |     |     |     |     | Totals. |
|---|-------|-----|-----|-----|-----|------|------|-----|-----|------|-----|-----|-----|-----|-----|-----|---------|
|   | 0-    | 1-  | 2-  | 3-  | 4-  | 5-   | 10-  | 15- | 20- | 25-  | 35- | 45- | 55- | 65- | 75- | 85- |         |
| Enteric Fever ...                             | ...   | ... | ... | ... | ... | 3    | 4    | 5   | 6   | 5    | 4   | 3   | 1   | ... | ... | ... | 31      |
| Smallpox ...                                  | ...   | ... | ... | ... | ... | ...  | ...  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | ...     |
| Scarlet Fever ...                             | 24    | 89  | 167 | 214 | 247 | 1276 | 564  | 178 | 84  | 91   | 35  | 7   | 2   | ... | ... | ... | 2978    |
| Diphtheria ...                                | 13    | 34  | 68  | 97  | 71  | 412  | 160  | 82  | 35  | 62   | 28  | 5   | 4   | ... | ... | 1   | 1072    |
| Erysipelas ...                                | 14    | 7   | 11  | 10  | 6   | 32   | 17   | 37  | 31  | 88   | 155 | 144 | 101 | 52  | 17  | 6   | 728     |
| Pulmonary Tuberculosis ...                    | 6     | 12  | 13  | 11  | 17  | 318  | 290  | 198 | 321 | 709  | 619 | 333 | 135 | 45  | ... | ... | 3027    |
| Tuberculous Meningitis ...                    | 11    | 9   | 7   | 2   | 4   | 9    | ...  | 2   | ... | 1    | ... | ... | ... | ... | ... | ... | 45      |
| Tuberculosis of Peritoneum and Intestines ... | 58    | 17  | 12  | 5   | 5   | 14   | 7    | 1   | 2   | 3    | 4   | 1   | ... | ... | ... | ... | 129     |
| Tuberculosis of Spinal Column ...             | ...   | 2   | 3   | ... | 1   | 4    | 1    | 1   | 1   | 1    | 3   | ... | ... | ... | ... | ... | 17      |
| Tuberculosis of Joints ...                    | ...   | ... | 1   | 2   | 1   | 6    | 4    | 2   | 6   | 4    | 2   | 1   | ... | ... | ... | ... | 29      |
| Tuberculosis of Other Organs ...              | 2     | ... | 4   | 9   | 7   | 94   | 65   | 17  | 12  | 18   | 8   | 1   | 5   | ... | ... | ... | 242     |
| Disseminated Tuberculosis ...                 | 3     | 6   | 5   | ... | ... | 4    | 4    | 1   | 1   | 1    | 2   | 1   | ... | 1   | ... | ... | 29      |
| Cerebro-Spinal Fever ...                      | 12    | 7   | 4   | 1   | 3   | 5    | 5    | 1   | 2   | 8    | 1   | 2   | 1   | ... | ... | ... | 52      |
| Poliomyelitis ...                             | 1     | 4   | 1   | ... | 1   | 1    | ...  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | 8       |
| Puerperal Fever ...                           | ...   | ... | ... | ... | ... | ...  | ...  | 6   | 29  | 81   | 45  | ... | ... | ... | ... | ... | 161     |
| Ophthalmia Neonatorum ...                     | 324   | ... | ... | ... | ... | ...  | ...  | ... | ... | ...  | ... | ... | ... | ... | ... | ... | 324     |
| Total ...                                     | 468   | 187 | 296 | 351 | 363 | 2178 | 1121 | 531 | 530 | 1072 | 906 | 498 | 249 | 98  | 17  | 7   | 8872    |

TABLE VII.  
Cases of Infectious Disease notified during the Year 1915. Classified according to Wards.

| DISEASE.                                  | Acock's Green. | All Saints. | Aston. | Balsall Heath. | Duddeston and Nechells. | Edgbaston | Erdington North. | Erdington South. | Handsworth. | Harborne. | King's Norton. | Ladywood. | Lozells. | Market Hall. | Moseley and King's Heath. | Northfield. | Rotton Park. | St. Bartholomew's. | St. Martin's and Deritend. | St. Mary's. | St. Paul's. | Saltley. | Sandwell. | Selly Oak. | Small Heath. | Scho. | Sparkbrook. | Sparkhill. | Washwood Heath. | Vardley | Not located. | City. |
|---|----------------|-------------|--------|----------------|-------------------------|-----------|------------------|------------------|-------------|-----------|----------------|-----------|----------|--------------|---------------------------|-------------|--------------|--------------------|----------------------------|-------------|-------------|----------|-----------|------------|--------------|-------|-------------|------------|-----------------|---------|--------------|-------|
| Enteric Fever ...                         | 1              | 2           | 1      | ...            | 1                       | 1         | 1                | ...              | ...         | 1         | 1              | 2         | ...      | ...          | 1                         | 1           | 1            | 1                  | 2                          | 2           | 1           | ...      | 1         | 1          | 1            | 3     | ...         | 1          | 2               | 1       | 31           |       |
| Smallpox ...                              | ...            | ...         | ...    | ...            | ...                     | ...       | ...              | ...              | ...         | ...       | ...            | ...       | ...      | ...          | ...                       | ...         | ...          | ...                | ...                        | ...         | ...         | ...      | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...     | ...          |       |
| Scarlet Fever ...                         | 122            | 121         | 93     | 162            | 151                     | 86        | 71               | 71               | 90          | 41        | 90             | 104       | 121      | 37           | 73                        | 58          | 100          | 118                | 94                         | 55          | 92          | 117      | 68        | 165        | 135          | 85    | 156         | 61         | 111             | 45      | 2978         |       |
| Diphtheria ...                            | 57             | 57          | 29     | 26             | 33                      | 31        | 21               | 38               | 49          | 33        | 63             | 41        | 32       | 9            | 33                        | 7           | 61           | 27                 | 39                         | 33          | 30          | 29       | 22        | 49         | 45           | 46    | 45          | 20         | 21              | 6       | 1072         |       |
| Erysipelas ...                            | 11             | 46          | 32     | 21             | 50                      | 21        | 14               | 14               | 20          | 15        | 24             | 24        | 25       | 10           | 10                        | 1           | 27           | 55                 | 31                         | 32          | 26          | 18       | 11        | 42         | 13           | 11    | 27          | 10         | 31              | 16      | 728          |       |
| Pulmonary Tuberculosis                    | 62             | 188         | 126    | 155            | 204                     | 81        | 30               | 28               | 61          | 34        | 58             | 126       | 111      | 72           | 38                        | 13          | 131          | 191                | 250                        | 175         | 152         | 98       | 32        | 59         | 113          | 58    | 132         | 53         | 110             | 47      | 39           | 3027  |
| Tubercular Meningitis                     | ...            | 4           | 3      | ...            | 1                       | ...       | ...              | ...              | 1           | 2         | 1              | 4         | 6        | ...          | ...                       | 1           | 3            | 1                  | 4                          | 2           | 1           | 1        | ...       | ...        | 2            | ...   | 4           | ...        | 1               | 2       | 1            | 45    |
| Tuberculosis of Peritoneum and Intestines | 4              | 6           | 3      | 4              | 30                      | 11        | 1                | ...              | 1           | 2         | 1              | 8         | ...      | 11           | 1                         | ...         | 2            | 5                  | 12                         | 3           | 7           | 1        | ...       | 2          | 1            | ...   | 4           | 2          | 4               | ...     | 3            | 129   |
| Tuberculosis of Spinal Column ...         | ...            | 1           | 3      | 1              | ...                     | 1         | ...              | ...              | ...         | ...       | ...            | ...       | 1        | ...          | ...                       | ...         | 2            | 1                  | ...                        | 2           | 1           | 2        | ...       | ...        | ...          | ...   | 1           | ...        | 1               | ...     | ...          | 17    |
| Tuberculosis of Joints                    | 2              | ...         | ...    | 1              | 3                       | 1         | ...              | ...              | ...         | 1         | ...            | 1         | 1        | ...          | ...                       | 1           | 3            | 2                  | 2                          | 2           | 1           | 1        | ...       | 1          | 2            | 1     | 2           | ...        | ...             | ...     | 1            | 29    |
| Tuberculosis of Other Organs ...          | 13             | 15          | 5      | 12             | 12                      | 4         | 2                | 3                | 4           | 2         | 4              | 11        | 5        | 16           | 2                         | 3           | 13           | 9                  | 18                         | 13          | 10          | 3        | 2         | 7          | 14           | 5     | 9           | 3          | 9               | 5       | 9            | 242   |
| Disseminated Tuberculosis ...             | ...            | 2           | ...    | 1              | 1                       | 1         | ...              | ...              | ...         | ...       | ...            | 1         | ...      | 1            | ...                       | ...         | 3            | 5                  | 2                          | 1           | 2           | ...      | ...       | 2          | 2            | 1     | 3           | ...        | ...             | ...     | 1            | 29    |
| Cerebro-Spinal Fever                      | ...            | 7           | 4      | 2              | 1                       | 2         | 1                | 1                | ...         | 1         | 4              | 1         | 3        | ...          | ...                       | 1           | 2            | 3                  | 5                          | 3           | ...         | 2        | ...       | ...        | 1            | 1     | 1           | 3          | ...             | 2       | 1            | 52    |
| Poliomyelitis ...                         | ...            | 2           | 1      | 1              | ...                     | ...       | ...              | ...              | ...         | ...       | ...            | ...       | 1        | ...          | ...                       | ...         | 1            | 1                  | ...                        | ...         | ...         | 1        | ...       | ...        | ...          | ...   | ...         | ...        | ...             | ...     | ...          | 8     |
| Puerperal Fever ...                       | 7              | 10          | 8      | 9              | 7                       | 5         | 2                | 4                | 4           | 2         | 2              | 10        | 7        | 3            | 2                         | 2           | 7            | 4                  | 6                          | 5           | 5           | 9        | 2         | 7          | 7            | 3     | 3           | 2          | 6               | 7       | 4            | 161   |
| Ophthalmia Neonatorum                     | 4              | 21          | 11     | 10             | 38                      | 3         | 4                | 3                | 3           | ...       | 5              | 21        | 2        | 6            | 3                         | ...         | 19           | 27                 | 37                         | 25          | 21          | 12       | 1         | 6          | 17           | 3     | 3           | 2          | 12              | 3       | 2            | 324   |
| Total ...                                 | 283            | 482         | 319    | 405            | 532                     | 248       | 147              | 162              | 233         | 134       | 253            | 354       | 315      | 165          | 163                       | 88          | 375          | 450                | 502                        | 353         | 349         | 294      | 139       | 341        | 353          | 215   | 393         | 156        | 307             | 135     | 227          | 8872  |



TABLE VIII.

*Temperature of the Air and Ground, Rainfall, Sunshine, and Wind, in each Month of the Year 1915  
Observed at the Birmingham and Midland Institute Observatory, Edgbaston,  
by Mr. Alfred Cresswell.*

| MONTH. | TEMPERATURE OF THE AIR.               |        |                                      |        | TEMPERATURE OF THE GROUND.   |       | HOURS OF SUNSHINE.           |                         | RAINFALL IN INCHES.          |                              | DAYS ON WHICH 0·01 INCH OR MORE OF RAIN FELL. | MILES OF WIND. |                              |       |
|--------|---------------------------------------|--------|--------------------------------------|--------|------------------------------|-------|------------------------------|-------------------------|------------------------------|------------------------------|---|----------------|------------------------------|-------|
|        | Highest in the shade.                 |        | Lowest in the shade.                 |        | Mean for the Month.          |       | Maximum at 1 foot deep.      | Maximum at 4 feet deep. | 1915.                        | Above or below the average.* |   | 1915.          | Above or below the average.* |       |
|        |                                       |        |                                      |        |                              |       |                              |                         |                              |                              |   |                |                              |       |
|        |                                       |        |                                      |        |                              |       |                              |                         |                              |                              |   |                |                              |       |
| 1915.  | Above or below the previous highest.* | 1915.  | Above or below the previous lowest.* | 1915.  | Above or below the average.* | 1915. | Above or below the average.* | 1915.                   | Above or below the average.* | 1915.                        | Above or below the average.*                  |                |                              |       |
| JAN.   | 55·5                                  | — 2·5  | 30·4                                 | + 19·6 | 38·5                         | + 0·8 | 43·6                         | 45·0                    | — 6                          | 2·80                         | + 0·89  | 16             | 11318                        | +1250 |
| FEB.   | 49·9                                  | — 12·0 | 27·0                                 | + 19·0 | 38·9                         | + 0·2 | 42·7                         | 44·0                    | + 29                         | 3·69                         | + 2·14  | 21             | 10618                        | +1055 |
| MAR.   | 57·9                                  | — 8·7  | 25·8                                 | + 6·8  | 41·0                         | — 0·2 | 44·0                         | 44·0                    | — 12                         | 0·84                         | — 1·15  | 8              | 10157                        | — 360 |
| APR.   | 69·6                                  | — 9·4  | 33·0                                 | + 6·3  | 47·5                         | + 2·0 | 47·2                         | 44·7                    | + 10                         | 1·07                         | — 0·47  | 12             | 9757                         | + 291 |
| MAY    | 72·4                                  | — 6·2  | 33·3                                 | + 2·3  | 51·5                         | ...   | 53·2                         | 48·2                    | + 58                         | 2·14                         | + 0·07  | 13             | 9358                         | + 338 |
| JUNE   | 76·9                                  | — 6·0  | 41·7                                 | + 4·1  | 58·0                         | + 0·8 | 58·1                         | 51·8                    | + 33                         | 1·37                         | — 0·85  | 8              | 6851                         | —1444 |
| JULY   | 70·9                                  | — 17·6 | 47·1                                 | + 7·6  | 57·5                         | — 3·1 | 57·6                         | 53·0                    | — 22                         | 6·18                         | + 3·99  | 23             | 8685                         | + 402 |
| AUG.   | 73·1                                  | — 20·8 | 44·9                                 | + 3·7  | 59·7                         | + 0·4 | 58·6                         | 54·3                    | — 33                         | 1·53                         | — 1·35  | 14             | 7094                         | —1416 |
| SEPT.  | 74·6                                  | — 16·0 | 36·5                                 | + 3·5  | 56·4                         | + 0·8 | 59·0                         | 54·3                    | + 55                         | 0·64                         | — 1·03  | 7              | 7270                         | — 697 |
| OCT.   | 62·3                                  | — 14·2 | 34·9                                 | + 7·0  | 48·3                         | — 0·3 | 52·0                         | 53·6                    | — 30                         | 1·94                         | — 0·82  | 10             | 6851                         | —2070 |
| NOV.   | 51·3                                  | — 10·3 | 23·0                                 | + 3·0  | 37·6                         | — 5·3 | 45·9                         | 50·5                    | + 14                         | 2·54                         | + 0·28  | 10             | 8771                         | — 578 |
| DEC.   | 53·0                                  | — 3·8  | 26·0                                 | + 11·6 | 40·0                         | + 1·0 | 44·2                         | 45·8                    | — 10                         | 4·72                         | + 1·99  | 26             | 10810                        | + 196 |

\* In the twenty-eight years 1887-1914.

TABLE IX.

*Meteorology and Mortality in each week of the year 1915.*

| WEEK. |               |               | DEATHS FROM             |                   |          |                    |                                       |                            |                                 |                          |                      | TEMPERATURE        |  |                                 |      |       | Horizontal Move-<br>ment of Air in<br>Miles | Hours of Sunshine. | Rainfall in Inches. |
|-------|---------------|---------------|-------------------------|-------------------|----------|--------------------|---------------------------------------|----------------------------|---------------------------------|--------------------------|----------------------|--------------------|--|---------------------------------|------|-------|---|--------------------|---------------------|
| No.   | Ending.       | Total Deaths. | Deaths under<br>1 year. | Deaths 65 and up. | Measles. | Whooping<br>Cough. | Diarrhea and<br>Enteritis<br>under 2. | Pulmonary<br>Tuberculosis. | Other Forms of<br>Tuberculosis. | Respiratory<br>Diseases. | of the Air.          |                    |  | of<br>Ground<br>4 Feet<br>Deep. |      |       |   |                    |                     |
|       |               |               |                         |                   |          |                    |                                       |                            |                                 |                          | Highest<br>in Shade. | Lowest<br>in Shade | Mean of Daily<br>Maxima and<br>Minima. |                                 |      |       |   |                    |                     |
| 1     | Jan.          | 9             | 338                     | 72                | 92       | 18                 | —                                     | 8                          | 24                              | 3                        | 96                   | 44.8               | 32.4                                   | 39.3                            | 45.0 | 2,511 | 7.0   | 1.23               |                     |
| 2     | "             | 16            | 299                     | 54                | 90       | 25                 | 1                                     | 5                          | 18                              | 6                        | 67                   | 55.5               | 33.3                                   | 42.9                            | 44.6 | 3,434 | 4.7   | 0.73               |                     |
| 3     | "             | 23            | 274                     | 43                | 69       | 22                 | 2                                     | 8                          | 20                              | 2                        | 54                   | 46.6               | 30.4                                   | 37.6                            | 45.0 | 2,701 | 5.5   | 0.62               |                     |
| 4     | "             | 30            | 296                     | 51                | 99       | 22                 | —                                     | —                          | 20                              | 5                        | 65                   | 39.9               | 30.4                                   | 35.0                            | 44.4 | 1,416 | 3.3   | —                  |                     |
| 5     | Feb.          | 6             | 298                     | 55                | 78       | 20                 | 1                                     | 2                          | 22                              | 9                        | 74                   | 49.8               | 32.4                                   | 42.6                            | 43.9 | 3,119 | 9.9   | 1.08               |                     |
| 6     | "             | 13            | 284                     | 41                | 88       | 15                 | —                                     | 4                          | 23                              | 3                        | 72                   | 46.2               | 28.6                                   | 38.0                            | 44.0 | 2,283 | 20.7  | 1.22               |                     |
| 7     | "             | 20            | 318                     | 65                | 87       | 19                 | 2                                     | 8                          | 25                              | 4                        | 87                   | 47.8               | 30.0                                   | 40.1                            | 43.9 | 2,801 | 19.4  | 1.07               |                     |
| 8     | "             | 27            | 295                     | 65                | 75       | 17                 | —                                     | 5                          | 28                              | 5                        | 50                   | 45.9               | 27.0                                   | 36.1                            | 43.3 | 2,302 | 28.6  | 0.22               |                     |
| 9     | Mar.          | 6             | 275                     | 49                | 81       | 16                 | —                                     | 3                          | 32                              | 3                        | 66                   | 55.3               | 31.9                                   | 43.4                            | 43.0 | 3,196 | 14.9  | 0.61               |                     |
| 10    | "             | 13            | 277                     | 40                | 86       | 15                 | 1                                     | 4                          | 20                              | 1                        | 72                   | 51.0               | 28.5                                   | 41.1                            | 43.6 | 2,205 | 7.8   | 0.05               |                     |
| 11    | "             | 20            | 314                     | 47                | 91       | 24                 | 3                                     | 3                          | 20                              | 5                        | 72                   | 48.3               | 28.6                                   | 40.4                            | 43.9 | 2,601 | 12.1  | 0.10               |                     |
| 12    | "             | 27            | 335                     | 69                | 83       | 22                 | 5                                     | 5                          | 25                              | 4                        | 84                   | 57.9               | 26.8                                   | 41.9                            | 43.9 | 1,783 | 20.1  | 0.29               |                     |
| 13    | April         | 3             | 348                     | 54                | 84       | 26                 | 4                                     | 6                          | 22                              | 3                        | 88                   | 53.1               | 25.8                                   | 39.0                            | 44.0 | 1,706 | 22.9  | 0.17               |                     |
| 14    | "             | 10            | 310                     | 60                | 100      | 10                 | 6                                     | 5                          | 29                              | 3                        | 85                   | 55.4               | 34.0                                   | 44.1                            | 43.8 | 2,958 | 40.3  | 0.52               |                     |
| 15    | "             | 17            | 298                     | 48                | 96       | 10                 | 7                                     | 3                          | 29                              | 5                        | 67                   | 54.3               | 35.4                                   | 45.7                            | 44.0 | 1,808 | 18.3  | 0.22               |                     |
| 16    | "             | 24            | 288                     | 56                | 83       | 7                  | 2                                     | 3                          | 29                              | 5                        | 78                   | 57.6               | 33.0                                   | 44.2                            | 44.5 | 1,796 | 14.9  | 0.17               |                     |
| 17    | May           | 1             | 278                     | 57                | 76       | 13                 | 3                                     | 2                          | 31                              | 10                       | 68                   | 69.6               | 36.0                                   | 51.3                            | 45.0 | 2,582 | 50.2  | 0.09               |                     |
| 18    | "             | 8             | 216                     | 36                | 56       | 7                  | 2                                     | 5                          | 19                              | 5                        | 41                   | 70.2               | 36.1                                   | 52.7                            | 46.0 | 2,009 | 42.8  | 0.26               |                     |
| 19    | "             | 15            | 223                     | 32                | 58       | 7                  | 1                                     | 4                          | 22                              | 3                        | 40                   | 66.7               | 33.3                                   | 46.5                            | 46.8 | 2,123 | 39.6  | 1.30               |                     |
| 20    | "             | 22            | 245                     | 44                | 71       | 12                 | 1                                     | 4                          | 36                              | 8                        | 36                   | 68.7               | 38.3                                   | 53.0                            | 46.8 | 1,896 | 35.0  | 0.49               |                     |
| 21    | "             | 29            | 212                     | 29                | 48       | 5                  | 4                                     | 3                          | 19                              | 2                        | 41                   | 72.4               | 39.9                                   | 55.5                            | 48.1 | 2,618 | 74.8  | —                  |                     |
| 22    | June          | 5             | 195                     | 35                | 54       | 10                 | 4                                     | 4                          | 12                              | 12                       | 29                   | 72.1               | 36.0                                   | 53.9                            | 48.9 | 1,507 | 43.5  | 0.10               |                     |
| 23    | "             | 12            | 246                     | 35                | 57       | 11                 | 2                                     | 4                          | 36                              | 10                       | 27                   | 76.9               | 50.0                                   | 62.0                            | 50.4 | 1,331 | 46.7  | 0.64               |                     |
| 24    | "             | 19            | 180                     | 38                | 45       | 8                  | 3                                     | 1                          | 21                              | 10                       | 28                   | 73.3               | 41.7                                   | 55.9                            | 51.1 | 1,959 | 54.9  | —                  |                     |
| 25    | "             | 26            | 186                     | 29                | 38       | 9                  | 4                                     | 5                          | 18                              | 4                        | 16                   | 72.6               | 43.9                                   | 56.8                            | 51.8 | 1,797 | 48.1  | 0.58               |                     |
| 26    | July          | 3             | 202                     | 34                | 53       | 4                  | 1                                     | 5                          | 25                              | 5                        | 27                   | 69.9               | 50.3                                   | 59.8                            | 52.0 | 1,253 | 12.6  | 0.13               |                     |
| 27    | "             | 10            | 175                     | 36                | 38       | 7                  | 1                                     | 5                          | 20                              | 3                        | 20                   | 70.9               | 48.0                                   | 58.6                            | 52.5 | 1,956 | 33.1  | 2.49               |                     |
| 28    | "             | 17            | 192                     | 34                | 45       | 5                  | 2                                     | 6                          | 15                              | 4                        | 19                   | 65.9               | 47.1                                   | 56.1                            | 53.0 | 2,354 | 37.9  | 2.18               |                     |
| 29    | "             | 24            | 174                     | 33                | 47       | 5                  | 1                                     | 7                          | 10                              | 3                        | 23                   | 67.6               | 49.3                                   | 57.8                            | 53.0 | 2,262 | 23.8  | 0.78               |                     |
| 30    | "             | 31            | 173                     | 37                | 46       | 2                  | 2                                     | 2                          | 17                              | 1                        | 18                   | 67.5               | 47.3                                   | 56.8                            | 53.0 | 1,508 | 49.4  | 0.66               |                     |
| 31    | Aug.          | 7             | 176                     | 33                | 47       | 1                  | —                                     | 12                         | 19                              | 4                        | 27                   | 70.6               | 50.2                                   | 60.0                            | 53.3 | 1,554 | 18.5  | 0.84               |                     |
| 32    | "             | 14            | 174                     | 25                | 42       | 1                  | —                                     | 9                          | 16                              | 2                        | 23                   | 73.1               | 50.1                                   | 62.4                            | 54.0 | 1,390 | 40.0  | 0.27               |                     |
| 33    | "             | 21            | 185                     | 41                | 42       | 3                  | 5                                     | 23                         | 11                              | 6                        | 16                   | 67.9               | 49.3                                   | 59.1                            | 54.3 | 1,783 | 28.3  | 0.08               |                     |
| 34    | "             | 28            | 220                     | 66                | 43       | 1                  | 2                                     | 38                         | 21                              | 7                        | 19                   | 72.4               | 49.9                                   | 59.9                            | 54.1 | 1,430 | 28.2  | —                  |                     |
| 35    | Sept.         | 4             | 223                     | 74                | 41       | 1                  | 4                                     | 47                         | 20                              | 4                        | 26                   | 64.4               | 40.1                                   | 53.2                            | 54.2 | 1,937 | 31.3  | 0.48               |                     |
| 36    | "             | 11            | 226                     | 77                | 50       | —                  | 2                                     | 47                         | 15                              | 2                        | 21                   | 71.7               | 43.1                                   | 58.8                            | 53.8 | 1,448 | 58.4  | —                  |                     |
| 37    | "             | 18            | 215                     | 61                | 49       | 2                  | 2                                     | 35                         | 12                              | 7                        | 23                   | 74.6               | 50.0                                   | 62.5                            | 54.0 | 1,616 | 30.8  | 0.05               |                     |
| 38    | "             | 25            | 235                     | 74                | 48       | 2                  | 1                                     | 45                         | 23                              | 3                        | 34                   | 67.5               | 40.3                                   | 57.0                            | 54.3 | 1,688 | 27.4  | 0.22               |                     |
| 39    | Oct.          | 2             | 234                     | 70                | 52       | 1                  | 2                                     | 39                         | 24                              | 4                        | 30                   | 62.0               | 36.5                                   | 47.3                            | 54.3 | 1,878 | 22.5  | 0.57               |                     |
| 40    | "             | 9             | 245                     | 68                | 63       | —                  | 1                                     | 40                         | 15                              | 10                       | 40                   | 56.8               | 40.0                                   | 49.8                            | 53.1 | 1,360 | 5.7   | 0.08               |                     |
| 41    | "             | 16            | 215                     | 53                | 52       | 1                  | 2                                     | 26                         | 22                              | 6                        | 35                   | 62.3               | 46.2                                   | 53.2                            | 52.2 | 1,402 | 9.1   | 0.08               |                     |
| 42    | "             | 23            | 209                     | 55                | 48       | 5                  | 1                                     | 21                         | 21                              | 2                        | 30                   | 54.5               | 36.9                                   | 47.5                            | 52.2 | 1,135 | 2.6   | 0.10               |                     |
| 43    | "             | 30            | 228                     | 43                | 57       | 3                  | 5                                     | 7                          | 22                              | 4                        | 49                   | 55.0               | 34.9                                   | 44.7                            | 51.8 | 2,089 | 19.4  | 1.13               |                     |
| 44    | Nov.          | 6             | 245                     | 49                | 64       | 4                  | 3                                     | 9                          | 19                              | 4                        | 53                   | 45.8               | 31.2                                   | 40.3                            | 50.8 | 2,335 | 13.2  | 0.25               |                     |
| 45    | "             | 13            | 233                     | 41                | 57       | 1                  | 4                                     | 7                          | 28                              | 3                        | 56                   | 51.3               | 32.4                                   | 40.9                            | 49.3 | 2,887 | 13.5  | 2.32               |                     |
| 46    | "             | 20            | 259                     | 40                | 81       | —                  | 1                                     | 7                          | 34                              | 4                        | 49                   | 43.6               | 27.7                                   | 35.5                            | 48.2 | 1,698 | 25.4  | 0.10               |                     |
| 47    | "             | 27            | 253                     | 41                | 70       | —                  | 5                                     | 4                          | 14                              | 5                        | 64                   | 42.6               | 23.6                                   | 34.1                            | 47.0 | 1,585 | 7.7   | 0.01               |                     |
| 48    | Dec.          | 4             | 286                     | 45                | 104      | 1                  | 1                                     | 6                          | 25                              | 3                        | 64                   | 50.2               | 23.0                                   | 38.6                            | 46.0 | 1,856 | 3.3   | 1.22               |                     |
| 49    | "             | 11            | 264                     | 36                | 87       | —                  | 4                                     | 8                          | 26                              | 4                        | 61                   | 53.0               | 32.0                                   | 42.9                            | 45.8 | 2,698 | 9.6   | 1.23               |                     |
| 50    | "             | 18            | 236                     | 45                | 69       | —                  | 3                                     | 6                          | 21                              | 3                        | 46                   | 46.5               | 29.1                                   | 36.9                            | 45.7 | 2,346 | 3.7   | 0.69               |                     |
| 51    | "             | 25            | 252                     | 38                | 78       | —                  | 4                                     | 9                          | 24                              | 1                        | 56                   | 50.1               | 26.0                                   | 40.4                            | 45.1 | 2,032 | 0.3   | 0.79               |                     |
| 52    | 1916.<br>Jan. | 1             | 259                     | 37                | 93       | —                  | 4                                     | 5                          | 22                              | 2                        | 74                   | 54.6               | 33.8                                   | 44.7                            | 45.2 | 3,710 | 6.8   | 1.10               |                     |









